

**MPUMALANGA DEPARTMENT OF AGRICULTURE, RURAL  
DEVELOPMENT, LAND AND ENVIRONMENTAL AFFAIRS  
APPEAL PANEL**

Appeal instituted by:

<b>EARTHLIFE AFRICA JOHANNESBURG</b>	<b>FIRST APPELLANT</b>
<b>BIRDLIFE SOUTH AFRICA</b>	<b>SECOND APPELLANT</b>
<b>MINING AND ENVIRONMENTAL JUSTICE COMMUNITY NETWORK OF SOUTH AFRICA</b>	<b>THIRD APPELLANT</b>
<b>ENDANGERED WILDLIFE TRUST</b>	<b>FOURTH APPELLANT</b>
<b>FEDERATION FOR A SUSTAINABLE ENVIRONMENT</b>	<b>FIFTH APPELLANT</b>
<b>GROUNDWORK</b>	<b>SIXTH APPELLANT</b>
<b>ASSOCIATION FOR WATER AND RURAL DEVELOPMENT</b>	<b>SEVENTH APPELLANT</b>
<b>BENCH MARKS FOUNDATION</b>	<b>EIGHTH APPELLANT</b>

Directed to:

**MEMBER OF THE EXECUTIVE COUNCIL: AGRICULTURE, RURAL  
DEVELOPMENT, LAND AND ENVIRONMENTAL AFFAIRS,  
MPUMALANGA**

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**APPELLANTS' SUBMISSIONS  
IN THE APPEAL  
ON 15 TO 17 AUGUST 2017**

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## **INTRODUCTION**

1. This is an appeal against an environmental authorisation granted by the Chief Director: Environmental Affairs, Mpumalanga on 7 June 2016 to Atha-Africa Ventures (Pty) Ltd ('Atha') in respect of the Yzermyn underground coal mine near Wakkerstroom ('the EA' and 'the Chief Director')). The appeal is to be heard by an appeal panel appointed by the Member of the Executive Council: Agriculture, Rural Development, Land and Environmental Affairs ('the MEC') in terms of s 43(5) of the National Environmental Management Act 107 of 1998 ('NEMA').
2. The appellants' grounds of appeal are contained in:
  - 2.1. The Statement of Grounds of Appeal in terms of s 43(2) of NEMA and regulation 61 of the Environmental Impact Assessment Regulations, 2010 ('the 2010 EIA regulations'), dated 19 August 2016 ('the statement of appeal'); and
  - 2.2. The Answering Statement in terms of regulation 63(2)(b) of the 2010 EIA regulations, dated 18 November 2016 ('the answering statement').
3. For ease of reference, the appellants have prepared four paginated bundles of documents for the hearing of the appeal from 15 to 17 August 2017. These bundles are the following:
  - 3.1. Bundle A, which contains the documents in paragraph 2 above and the Responding Statement prepared by Atha, dated 3 October 2016 ('Atha's responding statement');

- 3.2. Bundles B and C, which contain the key documents which will be referred to by the appellants at the appeal hearing; and
- 3.3. Bundle D, which comprises the Environmental and Social Impact Assessment Report and Environmental and Social Management Programme which served before the Chief Director when he granted the EA on 7 June 2016 ('the EIAR' and 'the EMPr') (without its many appendices).
4. In these submissions, reference will be made to pages in bundles A, B and C using the relevant paginated page number followed by the relevant paragraph number separated by a colon. The EIAR (in bundle D) already has page numbers of its own and reference will be made to these original page numbers in these submissions.
5. These submissions outline the arguments which will be made at the hearing of the appeal before the appeal panel from 15 to 17 August 2017. The structure of the argument does not follow the order in which the grounds of appeal were presented in the statement of appeal, but each of the main grounds will be dealt with<sup>1</sup>.
6. Before beginning, I point out that the appeal to the MEC against the Chief Director's decision, is an appeal in the wide sense<sup>2</sup>, and consequently when the

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<sup>1</sup> Only the fifth to seventh grounds and the ninth ground are not specifically addressed in these submissions but these are, it is submitted, self-explanatory and we refer to what is said in the statement of appeal in relation to them

<sup>2</sup> *Tikly and Others v Johannes NO and Others* 1963 (2) SA 588 (T) 590F-G; *Hangklip/Kleinmond Federation of Ratepayers Associations v Minister for Environmental Planning and Economic Development: Western Cape and Others* (4009/2008) [2009] ZAWCHC 151 (1 October 2009) paras 42-

MEC determines the appeal his decision on appeal will in essence be a decision in terms of section 24 of NEMA to grant an authorisation subject to the conditions specified by him or to refuse such authorisation. He also has wide powers on appeal to consider the decision afresh having regard to all relevant factors.

7. These submissions are organised as follows:
  - 7.1. In Part A, I describe the proposed mine;
  - 7.2. In Part B, I refer briefly to the other authorisations required;
  - 7.3. In Part C, I describe how the Environmental Impact Assessment ('EIA') process unfolded;
  - 7.4. In Part D, I describe the two most serious environmental impacts associated with the mine, namely dewatering and acid mine drainage;
  - 7.5. In Part E, I explain the various gaps in the information which was before the Chief Director and which is before the decision-maker, including in relation to dewatering and acid mine drainage (**fourth ground of appeal**);
  - 7.6. In Part F, I analyse the socio-economic impacts of the proposed mine (**third ground of appeal**);

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44; *Sea Front For All and Another v MEC, Environmental and Development Planning, Western Cape and Others* 2011 (3) SA 55 (WCC) paras 21-28

- 7.7. In Part G, I demonstrate how the proposed mine must be considered in the context of coal mining in South Africa and Mpumalanga as a whole;
- 7.8. In Part H, I deal briefly with deficiencies in the Environmental Management Programme which served before the Chief Director (**ninth ground of appeal**);
- 7.9. In Part I, I deal with the fact that neither Charlaine Baartjes nor San Oosthuizen of EcoPartners CC, Atha's environmental assessment practitioner ('EcoPartners' and 'EAP'), is registered in terms of sections 18(2) and 20(1) of the Natural Scientific Professions Act 27 of 2003 (**eighth ground of appeal**);
- 7.10. In Part J, I explain why a decision by the MEC without subjecting the EIAR to a further public participation process would give rise to a ground of review based on procedural fairness;
- 7.11. In Part K, I deal with the legal significance of the fact that the area in which the underground portion of the mine is located is a protected environment in terms of the National Environmental Management: Protected Areas Act 57 of 2003 ('NEMPAA');
- 7.12. In Part L, I motivate why the competent authority was, and is still, the Minister of Environmental Affairs ('the Environment Minister') (**second ground of appeal**);
- 7.13. In Part M, I explain the problem that the Environment Minister was treated as the competent authority throughout the environmental impact

assessment process, but that environmental authorisation was eventually granted by the Chief-Director (**second ground of appeal**); and

7.14. In Part N I describe two listed activities which have not been, but would need to be, authorised for the mine to proceed (**first ground of appeal**).

## **PART A: THE PROPOSED MINE**

8. The mine which Atha proposes to construct is an underground coal mine (referred to in this affidavit as ‘the Yzermyn mine’ or ‘the mine’) which would be located in the Mabola Protected Environment (‘the MPE’) in the Dr Pixley Ka Isaka Seme Local Municipality (‘the Local Municipality’) and the Gert Sibande District Municipality (‘the District Municipality’) in Mpumalanga.
9. Atha proposes to use the conventional bord-and-pillar mining method, which involves the removal of large areas of coal-containing ore (rock) while leaving in place ‘pillars’ of ore to hold up the roof of the underground mine. The project would involve the extraction, crushing, screening and stockpiling of coal product, as well as the transportation of the coal product for sale. The estimated life of mine is 15 years.
10. The MPE is a protected environment, having been declared as such by the MEC (being the predecessor to the MEC before whom this appeal lies) on 22 January 2014 in terms of section 28(1)(a)(i) and (b) of NEMPAA<sup>3</sup>. As appears from the declaration notice, the MPE includes the following properties on which the underground part of the mine will be located: Portion 1 of

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<sup>3</sup> Notice 20 in *Mpumalanga Gazette* No. 2251 dated 22 January 2014 in Bundle B pp. 427-428

Kromhoek 93 HT; Remainder of Kromhoek 93 HT; Goedgevonden 95 HT and Remainder of Yzermyn 96 HT.

11. A locality map depicting the mine area is in Bundle B at p. 435. The location of the underground mining footprint and surface infrastructure of the mine are depicted on a map which is in Bundle B at p. 436<sup>4</sup>. The surface infrastructure for the Best Environmental Option, which is the one which Atha intends to build, is illustrated in the EIAR (Bundle D on p. 93) (the image entitled 'Preferred Alternative').
12. Atha intends to construct its surface infrastructure of approximately 22.4 hectares on Portion 1 of Yzermyn 96 HT. Portion 1 of Yzermyn 96 HT is a triangular area wedged between (and on the boundaries of) two properties which form part of the MPE. The underground and surface areas of the mine in relation to the MPE are depicted on a diagram which is in Bundle B p. 441<sup>5</sup>.
13. I pause here to emphasise that it cannot be inferred from the fact that Portion 1 of Yzermyn 96 HT (which is where Atha intends to locate the surface infrastructure of the proposed mine) was excluded from the MPE, that the then MEC intended that the mine, including its surface infrastructure, ought to be permitted. The MEC made it very clear in a letter dated 24 December 2013 that that was not the case<sup>6</sup>.

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<sup>4</sup> Taken from Atha's Integrated Water and Waste Management Plan for Yzermyn Coal Mine ('the IWWMP') p. 14. See also the EIAR in Bundle D pp.69 and 90-93 for the surface infrastructure

<sup>5</sup> Prepared by Vanessa Stone of the World Wide Fund for Nature South Africa

<sup>6</sup> Bundle B pp. 456 and 459

14. Atha intends to locate borehole pipelines over at least four properties which comprise part of the MPE: Goedgevonden 95 HT, Portion 1 of Kromhoek 93 HT, Remainder of Kromhoek 93 HT, and Remainder of Yzermyn 96 HT.<sup>7</sup>
15. I refer in these submissions to the underground mining area and the surface infrastructure area collectively as ‘the mine area’.
16. The mine area corresponds with several wetlands as appears from a map which is in Bundle B at p. 439<sup>8</sup>. The underground mining footprint and surface infrastructure are both outlined in red. The dark blue areas are channelled valley wetlands (which is a valley-bottom wetland with a river channel running through it), and the lighter blue areas are seep wetlands (which are wetland areas on sloping land dominated by unidirectional movement of water).
17. It is common cause that the area in which the mine would be located has been recognised in spatial development frameworks and national programmes and policies as falling within a strategically important area from a conservation point of view, but also from a national water supply perspective:
  - 17.1. In March 2009 the National Protected Area Expansion Strategy (‘the NPAES’) was approved by the national government for implementation. The NPAES identified the vast majority of the area which now comprises the MPE and the mine area, as well as Portion 1 of Yzermyn

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<sup>7</sup> This appears from Atha’s IWWMP and from the water use licence which was granted to Atha on 7 July 2016

<sup>8</sup> Taken from Atha’s IWWMP p. 48. See also Bundle A at p. 58. The latter image is based on a previous surface infrastructure layout and still shows the position of a discard area. Although the surface area infrastructure has since been changed, and there will be no discard dump, the image is still useful because of the degree of overlap between the former and current surface layouts

96 HT, as a priority area for inclusion as a protected area in terms of NEMPAA ('Moist Escarpment Grasslands' (no. 25) on p. 28). A map of the proposed mine area with an overlay based on the NPAES priority areas, prepared by the Mpumalanga Tourism and Parks Agency ('the MTPA'), is in Bundle B at p. 461.

17.2. On 30 November 2010 the Local Municipality published its Spatial Development Framework ('SDF') in terms of the Local Government: Municipal Systems Act 32 of 2000 from which the following things, among others, appear:

17.2.1. The area comprising the proposed mine area was identified as a '*sensitive natural area*' meaning that it '*should be considered as protected and development proposed in the area should be directed by the different environmentally sensitive aspects as described in the environmental section of the SDF. Furthermore the abundance of conservation and protected areas should also be utilised as part of the natural environment to promote the economy and tourism in the municipal area by developing the areas to attract tourists and promote the attractiveness of the municipality*' (p. 172).

17.2.2. The environmental section of the SDF stated that:

17.2.2.1. Operational mines pose a significant threat to underground water quality (p. 71);

- 17.2.2.2. *‘[t]he spreading of coal mining activities in the Wakkerstroom area is of concern as this area is of high conservation value to the extensive wetlands found there. Mining would seriously threaten the integrity of the wetlands and other habitats’ (p. 76-77);*
- 17.2.2.3. *‘The high value of properly functioning ecosystems particularly in terms of water services provides an economic justification for their protection and restoration’;*
- 17.2.2.4. *‘One of the key regulating ecosystem services provided by [the] grasslands area [is] associated with the water environment given the area’s importance at the headwater of three major [Water Management areas]... Numerous wetlands... are centres of biodiversity, act as carbon sinks and are paramount to the hydrological functioning of drainage systems. The services provide water security for the area and also play a critical role as a “water factory” area with national importance for water security...’ and*

17.2.2.5. *‘The available evidence and observation of the situation in other mining areas indicates a high risk of significant unmitigated cumulative impacts from intensive mining’ (p. 79-80).*

17.3. In August 2011 the Water Research Commission, the Council for Scientific and Industrial Research (‘the CSIR’), the South African National Biodiversity Institute (‘SANBI’), the Department of Water Affairs (‘the DWA’) (now the Department of Water and Sanitation) and the Department of Environmental Affairs (‘DEA’) published the Atlas of National Freshwater Ecosystem Priority Areas in South Africa (‘the NFEPA Atlas’). The then Minister of Water and Environmental Affairs (the Hon. Edna Molewa) said in the foreword to the NFEPA Atlas, that it was essential that water is dealt with in an integrated and cooperative manner across key government departments and that the NFEPA Atlas would inform decisions about land use. In terms of the NFEPA Atlas:

17.3.1. The Wakkerstroom area, within which the mine area is located, was classified as a priority river and wetland ecosystem (pp. 20 and 22);

17.3.2. By this it was meant that the rivers were still in relatively good ecological condition occurring in healthy catchments and should remain in relatively good condition to contribute to national biodiversity goals and support sustainable use of water resources (p. 14); and that the wetlands and wetland

clusters had to be maintained if they were in good ecological condition and rehabilitated to the best attainable ecological condition if they were in a substandard ecological condition (p. 14);

- 17.3.3. The area now comprising the MPE was located in a high water yield area, which areas are important ‘*because they contribute significantly to the overall water supply of the country. They can be regarded as our water factories, supporting growth and development needs that are often a far distance away. Deterioration of water quantity and quality in these high water yield areas can have a disproportionately large adverse effect on the functioning of downstream ecosystems and the overall sustainability of growth and development in the regions they support. High water yield areas should therefore be maintained in a good condition (A or B ecological category). This requires minimising land use activities that reduce stream flow in these areas (e.g. plantation forestry), as well as any activity that would affect water quality (e.g. timber mills, mining, over-grazing). Wetlands also play an important role in these areas, regulating stream flow and preventing erosion...*’ (p. 44) (own emphasis) (A map of the proposed mine area with an overlay based on the NFEPA Atlas, prepared by the MTPA, is in Bundle B at p. 470).

- 17.4. On 9 December 2011 the then Minister of Water and Environmental Affairs published in terms of section 52(2)(b) of the National Environmental Management: Biodiversity Act 10 of 2004 ('the Biodiversity Act'), a national list of ecosystems that are threatened and in need of protection<sup>9</sup>. The Wakkerstroom/Luneburg Grasslands (MP11) was listed as an endangered ecosystem. The area now comprising the MPE and the mine area, as well as Portion 1 of Yzermyn 96 HT, is located in the Wakkerstroom/Luneburg Grasslands endangered ecosystem as shown on a map prepared by the MTPA, which is in Bundle B at p. 471.
- 17.5. On 21 February 2012, the MEC published by notice in the Mpumalanga Gazette, an Environmental Management Framework ('EMF') for the Local Municipality in terms of sections 24(5) and 44 of NEMA and the Environmental Management Framework Regulations, 2010. The Environmental Management Zones figure published with the EMF shows that the proposed mine area falls within a '*Zone 1: Conservation*' Environmental Management Zone. In terms of the EMF, '*Mining, dumping, dredging and prospecting*' is an '*undesirable type of activity*' and should '*not [be] allowed at all*' in a Zone 1: Conservation area (see Bundle B at pp. 473-475).
- 17.6. In 2013, the mine area was depicted in the 2013 Mpumalanga Biodiversity Sector Plan, as falling within areas largely classified as

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<sup>9</sup> GN 1002 in GG 34809 dated 9 December 2011

*'Irreplaceable Critical Biodiversity Areas'*<sup>10</sup> and *'Optimal Critical Biodiversity Areas'*<sup>11</sup> (Bundle B at p. 476)

17.7. In March 2013, the CSIR completed the Strategic Water Source Areas Report for WWF-SA. On the basis of this report, in August 2013 WWF-SA published an *'Introduction to South Africa's Strategic Water Source Areas'*. The following things appear from the latter report:

17.7.1. The area now comprising the MPE and the mine area, as well as Portion 1 of Yzermyn 96 HT, were identified as comprising part of the Enkangala Drakensberg Strategic Water Source Area;

17.7.2. The Strategic Water Source Areas were described as being the 8% of South Africa's land area that provides 50% of our surface water run-off. They *'provide a disproportionate amount of run-off to the rest of the catchment ... Downstream users and ecosystems are dependent on the healthy functioning of these areas to sustain good quality water supplies ... Disrupting water supply from these 16 strategic*

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<sup>10</sup> Which means that it was *'considered critical for meeting biodiversity targets and thresholds ... which are required to ensure the persistence of species and the functioning of ecosystems'* (Bundle B pp. 728-729)

<sup>11</sup> Which means that it has an irreplaceability of less than 80% but collectively with other such areas it incorporates the most biodiversity in the smallest area and therefore provides the most cost-effective options for bio-diversity (Bundle B p. 728). After the MPE had been declared on 22 January 2014, the areas comprising the MPE were classified in the MBSP as protected environment areas, while the remaining mine area not falling within the MPE (Portion 1 of Yzermyn 96 HT and Zoetfontein 94 HT) were largely classified as *'Irreplaceable Critical Biodiversity Areas'* and *'Optimal Critical Biodiversity Areas'* and were depicted as falling within a *'Protected Area Buffer'*

*WSAs would effectively turn off the taps to our economy and seriously impact our food and water security’ (p. 14);*

17.8. The Enkangala Drakensberg Strategic Water Source Area ‘*supplies water to South Africa’s economic hub, Gauteng ...*’ (p. 46). (I pause here to explain that numerous headwater and mountain streams flow from the study area into rivers that drain into the Assegaai River<sup>12</sup>. The Assegaai River, in turn, flows into the Heyshope Dam, from which water is diverted into the Vaal River System (the *Introduction to South Africa’s Strategic Water Source Areas* report p. 46). Accordingly, the area constituting the mine area and the MPE is a water source of the Vaal River System which, as stated, supplies water to Gauteng<sup>13</sup>).

17.9. On 22 May 2013 the ‘*Mining and Biodiversity Guideline: Mainstreaming Biodiversity into the Mining Sector*’ was published by the DEA, the Department of Mineral Resources (‘the DMR’), the Chamber of Mines, the South African Mining and Biodiversity Forum and SANBI. The mine area falls within an area which has been identified in the Mining and Biodiversity Guideline as a Category B

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<sup>12</sup> Bundle B at p. 516. The study area comprises the mining lease area, the underground mining area and the surface infrastructure area (Bundle B at p. 495)

<sup>13</sup> Downstream of the Heyshope Dam, the Assegaai River flows into the Usutu River (the “*Hydrological Assessment*” by Atha’s first EA Practitioner dated 16 August 2013). The Usutu River flows through Swaziland and, after joining the Pongola River, flows into Mozambique, where it is known as the Maputo River. Accordingly, the health of the Usutu River System is also relevant to South Africa’s international obligations to Swaziland and Mozambique

area, having the “*Highest biodiversity importance*” and being at the “*Highest Risk for mining*”. The significance of the biodiversity features in a Category B area is that (p. 29):

17.9.1. If the existence of the biodiversity features is confirmed in an environmental impact assessment, ‘*the likelihood of a fatal flaw for new mining projects is very high because of the significance of the ... ecosystem services*’;

17.9.2. Category B areas ‘*are viewed as necessary to ensure the protection of biodiversity, environmental sustainability, and human well-being*’; and

17.9.3. ‘*An EIA ...should fully take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country. Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts, and may specify biodiversity offsets...*’

17.10. In November 2014, the District Municipality published its 2014 SDF in which it reiterated statements in an earlier SDF about the importance of conserving the wetlands and grasslands in the Wakkerstroom area, including that, owing to their ‘*crucial role in maintaining the ecological integrity in the area*’ and in ‘*hydrological management, flood attenuation and water quality maintenance*’, the grasslands and

wetlands in the Wakkerstroom region *'have a high conservation value and should be protected at all cost'* (p. 112).

18. It is clear from the preceding discussion that the area in which the coal mine would be situated is unlike other areas in which coal mines might be situated. Apart from anything else, it is to be located in an environment which has been granted protected status by the MEC.
19. It is presumably for this reason that on 9 May 2017 the DEA briefed the Portfolio Committee on Environmental Affairs in Parliament on the Environment Minister's decision on 20 August 2016 in terms of section 48(1)(b) of NEMPAA to grant written permission to Atha to conduct commercial mining in the MPE. Members of the Portfolio Committee criticised the Environment Minister's decision, and the DEA was called to answer robust challenges on the issue. The Chairperson of the Committee said that the approval would create a bad precedent and might encourage other companies to apply for authorisation to mine in environmentally sensitive areas.
20. Be that as it may the NEMPAA decision has since then, on 26 July 2017, been taken by the appellants on review in the Gauteng Division, Pretoria of the High Court, which review is pending.

#### **PART B: THE OTHER AUTHORISATIONS REQUIRED**

21. Apart from permission in terms of NEMPAA, Atha requires several other statutory authorisations in order to commence mining. In order not to overburden this document, these are described in annexure A to this document

for the convenience of the decision-maker. The various challenges to these decisions are also described in that document.

22. For present purposes I refer only to an application which the appellants instituted on 20 June 2017 under case number 41970/17 for an urgent interdict against Atha conducting any mining or related activities on the properties comprising the mining right area unless and until at least, cumulatively, the following have taken place:

22.1. The final determination of this appeal; and

22.2. Application has been made, and authorisation has been granted for a change of land use of the mine area properties from conservation and/or agricultural purposes to mining purposes (which is one of the authorisations which remains outstanding)<sup>14</sup>; and

22.3. Any appeal against any such decision has been finally disposed of in Atha's favour.

23. An interim settlement has been reached in that matter, and made an order of the court, whereby Atha has undertaken to comply with all statutory requirements before commencing mining and has further undertaken to provide to the appellants three weeks written notice before commencement of any mining or mining-related activity. Pending that, the application has been removed from the roll. Atha said in its answering affidavit in that matter that it did not intend

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<sup>14</sup>In terms of section 26(4) read with 26(3) of the SPLUMA, read with regulation 18 of the Spatial Planning and Land Use Management Act 16 of 2013 Regulations

to commence mining in the foreseeable future because a number of notices and permissions required for Atha's lawful commencement of mining are still pending.

## **PART C: THE ENVIRONMENTAL IMPACT ASSESSMENT ('EIA') PROCESS**

24. On 9 January 2014, WSP Environment and Energy, Atha's first environmental impact assessment practitioner ('EAP' and 'WSP'), submitted an Environmental and Social Impact Assessment Report to the DEA on behalf of Atha. This version of the EIAR is referred to in the statement of appeal and in these submissions as 'the original EIAR'<sup>15</sup>.
25. The original EIAR included several specialist studies which either concluded that the project should not proceed or which raised areas of concern.
26. One of these was the '*Biodiversity Baseline & Impact Assessment Report*' by Natural Scientific Services CC dated September 2013 ('the NSS biodiversity report'), a detailed and thorough specialist report, the findings of which are summarised in the statement of appeal<sup>16</sup>. We return to the main findings of this report in Part D below. But the NSS biodiversity report concluded that the project should not be allowed to proceed at all<sup>17</sup>. The NSS biodiversity report was based on a detailed wetland assessment involving a desktop and field-based

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<sup>15</sup> Note that the allegation in paragraph 28 of the appeal statement that the original EIAR was submitted by EcoPartners CC, is incorrect. EcoPartners was only appointed subsequently as the EAP (see Bundles D and E (EIAR p iii and p 473).

<sup>16</sup> Bundle A (statement of appeal 14-21 paras 31-32). The NSS biodiversity report is in Bundle B at pp. 483-794

<sup>17</sup> Bundle B p. 785

delineation of wetlands in the proposed surface infrastructure area, and a desktop delineation of wetlands in the remaining underground mining area<sup>18</sup>.

27. It is common cause that the NSS biodiversity report was based on a ‘*Specialist Study: Geohydrology Impact Assessment*’ by WSP (Adam Smith) dated 3 September 2013 (‘the WSP groundwater assessment’) and that EcoPartners, Atha’s new EAP, subsequently commissioned what it says is, a more detailed groundwater assessment by Delta H (‘the Delta H groundwater assessment’). As is explained in Part D below however, the Delta H groundwater assessment substantially confirmed the findings of the WSP groundwater assessment. There was nothing in the Delta H groundwater assessment which warranted altering the findings in the NSS biodiversity report.
28. On 9 January 2014, the Department of Water Affairs (‘the DWA’) (now the Department of Water and Sanitation (‘the DWS’)) (which had been consulted by the DMR as regards an earlier version of the EIAR, which had also included the NSS biodiversity report) addressed a letter to the Mpumalanga Regional Manager of the DMR, expressing that it did not support the proposed mining development (‘the January 2014 DWA letter’)<sup>19</sup>. The DWA’s concerns included the following:
- 28.1. The location of the proposed mine in known sensitive habitats and environments as well as adjacent to the Kwamandlagampisi Protected

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<sup>18</sup> Bundle B p. 486

<sup>19</sup> Bundle B pp. 795-800

Environment ('the KPE') – the DWA noted this site location '*with great concern*';

- 28.2. The impact of the mine on critical biodiversity sites was alarming even after mitigation was considered;
- 28.3. The projected impact of the dewatering of wetlands through the abstraction of water from the identified boreholes was concerning (the mine will require water which is to be abstracted from two boreholes);
- 28.4. '*... no detailed wetland assessment was undertaken in the greater area to be impacted upon by the underground mining and associated cone of depression from the dewatering activities or groundwater contamination plume*', meaning that the precise impacts on wetlands in the mining area and those in the areas abutting the mining area had not been predicted;
- 28.5. The proposed mine would lead to a decline in water quality in the area, and was potentially prone to acid mine drainage decant after the closure of the mine;
- 28.6. At least 42% of the proposed mining area could be classified as 'wetland';
- 28.7. Mining threatened the existing tourism sector in the area as well as potential growth in ecotourism in the region;

- 28.8. Although the mine would create job opportunities, the majority of these job opportunities would be reserved for skilled workers from outside of the surrounding areas; and
- 28.9. ‘... *the greatest fatal flaw of this site is that it is situated within the National Freshwater Ecosystem Priority Area...*’ and that it was predicted that mining would lead to the dewatering of subsurface water resources and the pollution of both surface and subsurface water resources that would ‘*extend to wetland [Freshwater Ecosystem Priority Areas] in the near vicinity*’.
29. I pause here to note that although the surface infrastructure of the mine was subsequently changed to impact on a reduced surface area, and a proposed wash plant and discard facility were dropped from the project, the majority of DWA’s concerns related to the impacts of the underground portion of the mine.
30. On 4 February 2014 the DMR sent a directive to Atha in terms of section 29 of the Mineral and Petroleum Resources Development Act 28 of 2002 (‘the MPRDA’) and section 39(5) of the MPRDA (the latter section still being operative)<sup>20</sup>. As appears from the directive, the DMR noted that it did not support the application in its then form.
31. On 16 May 2014 the DEA also rejected the original EIAR in terms of regulation 34(2)(b) of the 2010 EIA regulations<sup>21</sup>. The DEA listed several key aspects of

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<sup>20</sup> Bundle B pp. 801-802

<sup>21</sup> Bundle A pp. 389-392

concern and requested that the EIAR be amended to address them. The DEA required the following:

- 31.1. Confirmation as to whether an alternative (surface) layout could be proposed, which would *‘allow the proposed mine to coexist within this sensitive area, given the Department’s concerns with regards to biodiversity’*;
- 31.2. An amendment to the EIAR to include a new layout plan and an *‘update [of] the specialist studies to include for the assessment of the new alternative layout plan’*;
- 31.3. *‘[G]round-truthing’* to prove that the development does not impact on the reason for the classification of the site as *‘Irreplaceable’* in the Mpumalanga Biodiversity Conservation Plan – The DEA noted that this *‘may constitute a fatal flaw’*;
- 31.4. An assessment of the interrelatedness of impacts on ground and surface water – The DEA observed in this regard that *‘the area has a high occurrence of wetlands of very high ecological importance’*;
- 31.5. The *‘identification of ... downstream water areas, ... water users dependent on the water, and a quantification of the dewatering effect on ... economic activities downstream, including increase in droughts and floods’* - The DEA observed in this regard that the area is classified as an NFEPA *‘which means that it is critical for the sustained supply of potable water for downstream communities’* and that *‘[d]ewatering of*

*this area at the rates proposed in the study will lead to the lowering of the water table, which is likely to have a very high negative impact on biodiversity, food production and water provisioning to areas downstream’;*

- 31.6. Additional ground and surface water studies in order to adequately quantify the anticipated impacts of Acid Mine Drainage resulting from the underground workings of the mine;
- 31.7. Consideration of the facts that *‘[t]he study area is surrounded by protected areas to the south and east of the site, and some of the land parcels in the application are part of a declared Protected Environment’;*
- 31.8. An assessment of *‘all associated infrastructure required for the mine’* and a discussion of all listed activities including *‘the pipelines required for the transportation of water and dangerous goods, reservoirs, and any culverts/bridges required for the access roads’;*
- 31.9. *‘A geotechnical study/specialist opinion ... in order to address the issue of mine stability and the potential for subsidence’;* and
- 31.10. An assessment of *‘whether the generators alone are sufficient to supply power for the Life of Mine (LOM), or whether the viability of the mine is dependent on the future approval of an alternative power source’* – the DEA noted in this regard that *‘the Department does not support*

*incremental decision making, should the viability of the mine depend upon the future approval of additional power lines or power stations’.*

32. Following these comments by the DEA, Ecopartners (the new EAP which Atha had appointed in about February 2014 to replace WSP after the DWA and DMR comments) went about obtaining certain further specialist reports in order to meet the DEA’s requirements. These reports included the following:
- 32.1. The groundwater assessment by Delta H dated August 2014, first referred to in paragraph 27 above<sup>22</sup>;
- 32.2. A report by Scientific Aquatic Services CC (‘SAS’) ‘*Wetland Ecological Assessment as part of the Environmental Assessment and Authorisation Process for the proposed Yzermine Coal Mining Project*’ dated June, August 2014 (‘the SAS 2014 report’)<sup>23</sup>; and
- 32.3. A report by EcoPartners itself in which impacts on downstream water uses dated 5 August 2014 were purportedly assessed (‘the downstream water uses report’)<sup>24</sup>.
33. Atha also made several changes to the project at this stage, including to the surface infrastructure which was reduced in size from 42.67 hectares to 22.4 hectares, although the surface infrastructure associated with the Best Environmental Option would only come later. This is clear from the EIAR

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<sup>22</sup> Bundle pp. 803-888

<sup>23</sup> Bundle C pp. 889-998

<sup>24</sup> Bundle C pp. 999-1068

itself, from which it appears that the replacement of infrastructure surrounding the adit took place after a detailed delineation by SAS in November 2014, to which I return below (Bundle D p. 90).

34. I return, below, to some of the detailed findings of the reports in paragraph 32 above, but for present purposes I point out that none of them was based on the Best Environmental Option.

35. Furthermore:

35.1. As regards the Delta H groundwater assessment, it largely confirmed the WSP groundwater assessment in relation to the effect of dewatering on wetlands and springs, and went further by concluding that the mine was likely to ‘decant’ post-closure<sup>25</sup>.

35.2. As regards the SAS 2014 report, it confirmed the ecological value and sensitivity of the wetlands in the study area and said that ‘*[b]ased on the findings of this study, it is the opinion of the ecologists that the project is regarded as having extremely high impacts; unless it is considered economically feasible to treat the decant water post-closure until water quality stabilizes, which could take many decades, to pre-mining water quality standards in such a way as to support the post closure land use, which is envisaged to be protected wilderness*’<sup>26</sup> (my emphasis) and

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<sup>25</sup> Bundle B p. 878

<sup>26</sup> Bundle C p. 894

- 35.3. As regards the downstream water uses report, as pointed out in a review dated 17 August 2016 by Susie Brownlie<sup>27</sup>, among other things, it ‘*makes a number of vague and wholly inadequate and inconclusive statements*’ and fails to quantify the predicted effects on economic activities. It also contains data obtained from surface water samples collected by the applicant itself<sup>28</sup>. If anything, it suggests that downstream water users, including farmworkers who use river water for domestic purposes, are very much at risk from possible contamination.
36. On 16 September 2014 EcoPartners gave stakeholders notification that the DEA had ‘*reviewed the Final ESIA/ESMP report that was submitted in January 2014 and requested that additional information be addressed*’; that a new surface layout had been proposed; that additional specialist studies had been conducted; and that a draft amended EIAR was available for comment. Stakeholders were invited to provide comment by 27 October 2014<sup>29</sup>. I pause here to note that one of the state departments to be notified as an interested stakeholder was the Department of Agriculture, Rural Development, Land and Environmental

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<sup>27</sup> ‘*Review of Environmental Impact Assessment Report & Environmental Management Programme, and Environmental Authorisation, for Yzermyn underground coal project*’ Bundle A pp. 121-157

<sup>28</sup> Bundle C pp. 1039-1040 and bases its figures of domestic use of river water on 2011 census figures. It does however contain a useful map of the farms which are dependent for farming on river water in and around the study area (Bundle C pp. 1003-1004, 1014 and 1019); confirms that farmworkers on the affected farms use river water for domestic purposes (Bundle C pp. 1015-1017); confirms that 1 152 cattle and 6 810 sheep could be affected if the mine reduces water in the rivers (Bundle C p. 1023); confirms that a reduction in water levels may place strain on agricultural activities in the area; a reduction in water levels would be a concern for people dependent on the rivers; and that acid mine drainage might have a drastic effect on the quality of crops Bundle C p. 1029

<sup>29</sup> Bundles D and E (EIAR pp. iii; 487-488)

Affairs, Mpumalanga ('the Mpumalanga Environmental Department'), something to which I return below<sup>30</sup>.

37. On 27 October 2014, the authors of the NSS biodiversity report, who had taken the unusual step of registering as an interested and affected party in order to provide further input, also provided comment<sup>31</sup>. NSS said among other things (having reviewed the Delta H groundwater assessment) that the impact of the post closure decant of the mine alone could not justify the short-term economic gains of the mine.
38. On 9 December 2014, after the period for public comment regarding the EIAR had ended, SAS conducted a delineation of the wetlands situated in the new surface footprint area, producing a wetland delineation letter dated 9 December 2014 ('the SAS wetland delineation letter')<sup>32</sup>. I pause here to point out that the scientific veracity of the SAS wetland delineation letter (upon which Atha relies in its responding statement in this appeal to suggest that the revised surface layout would result in acceptable impacts), has been seriously called into question by two specialists whose reports form part of the grounds of appeal.
39. In any event, as noted in the grounds of appeal, a change to the surface infrastructure of the mine would have no effect on the impacts of the underground portion of the mine, which are the most significant impacts.

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<sup>30</sup> Bundle D (EIAR pp 3 and 25)

<sup>31</sup> Bundle C pp. 1074-1075

<sup>32</sup> Bundle C pp. 1069-1071

40. Following the SAS wetland delineation letter, Atha made several further changes to the project<sup>33</sup>, including the following:
- 40.1. The layout for the surface infrastructure of the mine was further slightly changed – this new layout is referred to in the EIAR as the Best Environmental Option<sup>34</sup> (This is the layout which is attached to the EA);  
and
- 40.2. A coal wash plant and discard dump, which had formed part of the project, were removed.
41. On 7 June 2016 the Chief Director granted Atha environmental authorisation in respect of activities associated with the mine<sup>35</sup>.
42. On 17 June 2016 the appellants were informed that the EA had been granted. I pause to point out here that it was entirely unexpected that the EA would be granted by the Chief Director of the Mpumalanga Environmental Department when the Environment Minister had acted throughout the EIA process as the competent authority and the Mpumalanga Environmental Department had acted throughout the EIA process as a commenting authority. I return to the ground of appeal that the Chief Director acted without lawful authority when he granted the EA in Part M below.

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<sup>33</sup> This appears from the EIAR (Bundle D p. 90)

<sup>34</sup> Bundle D (EIAR p. 2)

<sup>35</sup> Bundle B pp. 395-418

**PART D: THE ENVIRONMENTAL IMPACT OF THE MINE – THE FINDINGS OF THE SPECIALISTS**

43. Before dealing with two of the main risks identified by the specialists, including the ones appointed by EcoPartners to address the DEA's concerns, I point out that the NSS biodiversity report contained several findings based on extensive field work as regards the diversity of species found at the mine area, and the present state and sensitivity of the wetlands which occur there. These include the following:

43.1. A myriad plant, mammal and bird species occur in the mine area which are either at risk of extinction, listed as Protected Species under the Mpumalanga Conservation Act 10 of 1998 or categorised as critically important ('CI')<sup>36</sup>;

43.2. There are eight springs which are located within the underground mining area<sup>37</sup> (as I shall explain in Part F.2 below, these are presently used by subsistence farmers as a source of water);

43.3. The surface infrastructure (as it was then conceived) would overlap to a very large extent with wetlands;

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<sup>36</sup> This is not surprising given that the mine would be situated in Rutherford & Westfall's (1994) Grassland Biome which has extremely high biodiversity, second only to the Fynbos Biome (NSS p. 22)

<sup>37</sup> Bundle B p. 705. As appears from a comparison between this figure and the actual underground mine footprint in Bundle B p. 436, at least four of these springs fall within the area most recently identified as the underground footprint

- 43.4. The existing impacts on the wetlands caused by, among other things, stands of alien invasive species and cattle tracks is very limited and minor in extent<sup>38</sup>;
- 43.5. The wetlands have a ‘*VERY HIGH*’ Ecological Importance and Sensitivity (‘EIS’) including because of the MPE, the current integrity of the site and the numerous CI species identified<sup>39</sup>;
- 43.6. All of the wetlands on the site are regarded as having Very High sensitivity – they are ‘*largely fed by groundwater from the perched, shallow weathered and deeper, fractured aquifers, and are, therefore, sensitive to changes in groundwater levels and water quality*’<sup>40</sup>; and
- 43.7. The main recommended mitigation measure was to avoid all areas of Very High and High sensitivity – ‘*This would make the project a No Go as almost the entire undermining area is rated as having a Very High or High sensitivity*’<sup>41</sup>.
44. The SAS 2014 assessment confirmed the following findings of NSS:
- 44.1. The wetlands in the proposed mine area (surface infrastructure and underground operations) are considered overall to have a Category A Present Ecological State (‘PES’), meaning that they are natural and unmodified. Modifications that have impacted the wetlands are on a

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<sup>38</sup> Bundle B pp. 706-709

<sup>39</sup> Bundle B p. 709

<sup>40</sup> Bundle B p. 730

<sup>41</sup> Bundle B p. 241

localised scale, or of a relatively minor nature, and are thus not deemed to have had a noticeable effect on the health of wetland systems, and *‘should the proposed mining activities proceed, the associated disturbances are deemed highly likely to impact negatively upon the wetland systems’*<sup>42</sup>; and

44.2. The wetlands in the proposed mine area (surface infrastructure and underground operations) have a ‘VERY HIGH’ Ecological Importance and Sensitivity (‘EIS’), meaning that the wetlands are considered to be ecologically important and sensitive on a national or even an international level; the biodiversity of these wetlands is likely to be very sensitive to flow and habitat modifications; and the wetlands play a major role in moderating the quantity and quality of water of major rivers<sup>43</sup>.

45. I pause here to deal with the subsequent SAS wetland delineation letter (first referred to in paragraph 38 above), which appears at first sight to call some of these findings into question. The SAS wetland delineation letter led to the adoption of the surface infrastructure associated with the Best Environmental Option after the public participation process had ended.

46. The following things appear from that letter:

46.1. On 7 November 2014, a detailed delineation was purportedly undertaken (by SAS presumably) and *‘it became evident that the wetland resources*

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<sup>42</sup> Bundle C p. 962

<sup>43</sup> Bundle C p. 966

*within the proposed surface infrastructure are of limited ecological importance and sensitivity and are highly disturbed*’;

- 46.2. The hillslope seeps in the vicinity of the proposed infrastructure are ‘*highly marginal*’ and their importance from a floral and faunal habitat point of view is ‘*extremely limited*’;
- 46.3. The wetland resources in the vicinity of the proposed infrastructure have been significantly disturbed due to historical tilling, crop cultivation, grazing and seasonal fires; and
- 46.4. Only 0.0724 ha of the eastern wetland and 2.79 of the western wetland would be lost directly as a result of the surface infrastructure.
47. The first point to be made about this letter is that it does not deal with, or purport to deal with, any wetlands other than those in the area where the surface infrastructure will be built. None of the NSS or previous SAS findings as regards wetlands in the larger mine area are therefore called into question, and as appears below, it is these which are most at risk from underground mining.
48. But in any event, as is pointed out in a specialist review prepared by GCS (Pty) Ltd on 18 November 2016 on behalf of the appellants (‘the GCS review’) ‘*the scientific veracity and value of the wetland delineation letter ... is questionable*’<sup>44</sup>. While the NSS biodiversity report and the SAS 2014 assessment are detailed reports of 278 and 99 pages respectively, the SAS wetland delineation letter is a 3 page letter which does not contain any

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<sup>44</sup> Bundle A p. 335-388

information explaining the methodology utilised or the results obtained from the application of any methodology. The previous SAS 2014 assessment (as well as the NSS biodiversity report) entailed both desktop and field-based investigations of the wetlands within the surface infrastructure area, and there is no reason to believe that the Ecological Importance and Sensitivity ('EIS'), Present Ecological Study ('PES') and eco-services assessments in these reports are incorrect<sup>45</sup>.

49. What is more is that the SAS wetland delineation letter has never been made available to the public for comment, and NSS and other interested and affected parties have not had an opportunity to consider the findings contained in the letter. I return to the legal implications of this below.
50. But in any event, as appears below, it is the risk associated with the underground mining part of the project which is of most concern.

### **D.1 Dewatering**

51. Both the Delta H and WSP groundwater assessments accepted that as mining progresses, groundwater from surrounding rock would enter the mine void and need to be pumped out. According to both Delta H and WSP, groundwater inflow into the mine void and pumping would result in reduced groundwater

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<sup>45</sup> As already noted, although the surface infrastructure was re-configured to the Best Environmental Option, this largely entailed a reduction of the surface infrastructure footprint. The Best Environmental Option surface footprint is accordingly contained within the original surface footprint

levels in the aquifers above and in the vicinity of the workings, creating what are known as ‘cones of dewatering’<sup>46</sup>.

52. Delta H predicted a maximum drawdown of 9 metres in the shallow aquifer and 50 metres in the deep aquifer<sup>47</sup>, while WSP predicted a maximum drawdown of 10 metres in the shallow aquifer and 55 metres in the deep aquifer<sup>48</sup>. Diagrams produced by both Delta H and WSP show that cones of dewatering in both the shallow and deep aquifers would extend for several kilometres away from the mine.
53. The NSS biodiversity report contained several significant findings as regards the effects of dewatering on wetlands in the study area. While these were based on the WSP groundwater assessment, the cones of dewatering generated by Delta H and WSP are comparable<sup>49</sup>.
54. The NSS findings included the following:
- 54.1. The project ‘*will impact on wetlands, fed by the shallow aquifer, within an area of approximately 5.398 ha and wetlands, fed by springs sourced in the deeper aquifer, within an area of approximately 7.977ha*’, ‘*[t]he possibilities for offsets, of this extent within the same catchment, are unlikely*’;

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<sup>46</sup> Bundle B p. 860 (Delta H); Bundle A p. 82 (WSP). See Bundle A p. 184 for a depiction of what is meant by a cone of dewatering

<sup>47</sup> Bundle B pp. 861-862

<sup>48</sup> Bundle A pp. 105-108

<sup>49</sup> See Bundle A p. 179 and Bundle A p. 368

- 54.2. The lowering in groundwater level *‘will have a negative impact on all wetlands fed by the shallow aquifer and the springs within the cone of depression. These springs are one of the main sources of water for the wetlands in the area...’*<sup>50</sup>;
- 54.3. The *‘decrease in water input to the wetlands within the study area and surrounds, and the resultant reduction in flow, and potential drying up of wetlands will have a HIGH significance on Biodiversity as a minimum of 40% of the underground mining area and surface infrastructure footprint area constitutes wetland habitat’*<sup>51</sup>;
- 54.4. The loss or deterioration of wetlands *‘will extend into the wetland FEPAs within the mine lease area and the wetland FEPAs and Wetland Clusters in the immediate surrounds’*<sup>52</sup>;
- 54.5. *‘Approximately 42% of the vegetation communities identified within the surface infrastructure footprint and 40% within the mine lease area are moisture dependent...If the dewatering activities have a major effect on the wetland systems identified, these vegetation communities and the potential CI species found within these habitats will be affected and may change in structure in the long term’*<sup>53</sup>;

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<sup>50</sup> Bundle B p. 759

<sup>51</sup> Bundle B p. 762

<sup>52</sup> Bundle B p. 762

<sup>53</sup> Bundle B p. 767

- 54.6. Underground mining will take place within 1 km of an identified NFEP buffer (first referred to in paragraph 17.3 above) – in this regard the NSS recorded ‘*[t]he greatest concern ...is the potential impact of the mine on the water resources as a result of underground water reduction due to de-watering activities and groundwater contamination due to sulphate seepage from the mine workings ...*’ and ‘*[B]oth the cone of depression and the groundwater contamination plume extend to the wetland FEPA’s in the near vicinity*’<sup>54</sup>; and
- 54.7. Due to the ‘*HIGH and long-term (if not irreversible)*’ status of the impact of the mine on water inputs ‘*in an area far exceeding the study area, the project should be a NO GO*’<sup>55</sup>.
55. As noted above, the NSS biodiversity report was based on the WSP groundwater assessment, and not on the subsequent assessment by Delta H. However, although the Delta H groundwater assessment contained certain further findings as regards what it suggested may be limited hydraulic connectivity between the shallow and deeper aquifers<sup>56</sup>, it nevertheless also found that there would be either a reduction or complete cessation of spring yields depending on their

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<sup>54</sup> Bundle B pp. 722-723

<sup>55</sup> Bundle B p. 769

<sup>56</sup> This assumption in the Delta H groundwater model is questioned by GCS because it is not based on any site specific tests of the hydraulic conductivity of the dolerite sill (see Bundle A at pp. 6-7 and 9). Delta H itself records that it was not able to verify its groundwater model and considers the model to be of ‘low confidence’ due to, amongst other things, the lack of data in respect of the hydraulic conductivities of ‘faults and contact zones to dolerite dykes or sills’ (Bundle B pp. 856 and 878: 8.7)

location<sup>57</sup>. Delta H said that the impact of dewatering would be long term beyond mine closure with a permanent lowering of the water table unless the mine voids are backfilled or sealed.

56. According to the EIAR itself, a lowering of groundwater levels will have a negative impact on, among other things, the springs within the cone of depression of the mine. A drawdown of more than 5m is expected to reduce or dry up springs ‘*thus affecting much of the central part of the target area*’ (i.e. the mine area)<sup>58</sup>.
57. In its responding statement in this appeal, Atha attempts to meet the concern about dewatering by saying that it will ‘*pre-grout any zone of inflow intersected*’ (see for example Atha’s responding statement at p. 49 in Bundle A).
58. Grouting has however not been assessed by any of Atha’s groundwater specialists. Although it is possible that grouting may reduce the anticipated inflows into the underground workings and therefore also reduce the anticipated drawdowns, this has not been determined by a groundwater specialist and it is therefore simply not known whether this proposed measure is likely to reduce the dewatering impacts. In any event, it is not something which is dealt with in the EIAR and has not been subjected to public comment.

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<sup>57</sup> Bundle B at pp. 861 and 863. I also point out that to the extent that the SAS wetland delineation letter purported to deal with groundwater impacts based on a site visit on 7 November 2014, its findings obviously cannot be taken into account without providing the public with an opportunity to comment

<sup>58</sup> Bundle D (EIAR p. 337)

59. The significant risks posed by dewatering, which all of the groundwater specialists accept are there, must be taken into account by the MEC<sup>59</sup>. Indeed, unless a scientifically-sound and adequately substantiated specialist study were to be obtained by Atha which shows that this risk may be mitigated successfully, the protected status of the area in which the mine would be located would preclude the granting of environmental authorisation.

## **D.2 Acid Mine Drainage**

60. Acid mine drainage represents the most severe impact of coal mining on water resources. Coal is either in a sulphide form or associated with sulphide bearing strata. When sulphide minerals are exposed to water and oxygen, they form sulphuric acid and iron. The risks posed by acid mine drainage are present both during the operational phase, and after mining operations stop when the mine void will fill with groundwater, allowing contaminants to pass into the water, which may then ‘decant’ onto the surface.
61. The Delta H groundwater assessment reported that *‘it will take around 45 years for the mine voids ... to be completely flooded once active dewatering is stopped. Thereafter, decant from the underground mine voids via the adit and/or unsealed exploration boreholes in the vicinity are [highly]<sup>60</sup> likely to occur.’*<sup>61</sup>

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<sup>59</sup> Although the SAS wetland delineation letter refers to a dolerite sill which ‘acts as an impermeable geological layer which will prevent the drawdown of water from the wetlands’, this is an entirely unsubstantiated remark. To the extent that it is based on the conceptualisation by Delta H of a continuous, un-fractured dolerite sill (and limited hydraulic connectivity between the aquifers), as pointed out by GCS, this is not based on any site-specific tests and is merely an assumption made by Delta H in its groundwater model, which Delta H itself said was uncertain

<sup>60</sup> Bundle B p. 878:8.6.2

<sup>61</sup> Bundle B p. 877

Delta H also assessed the acid production and neutralisation potential of coal samples from a neighbouring mine and found that the majority of the coal samples were potentially acid generating.<sup>62</sup> Delta H said that the impact of acid mine drainage would be widespread beyond the site boundary, unless mitigated by the treatment of decant. Delta H also said that the impact would be long-term, with substantial increases of pollutant concentrations in surface water beyond closure, and substantial deterioration in the ambient surface water quality<sup>63</sup>.

62. The SAS 2014 assessment reported that: *‘The potential for post-closure decant of water from the underground mine void via the adit and/or unsealed exploration boreholes (Delta H, 2014) is of particular concern, as this will have a long term effect on surface water quality of not only on the wetlands within the study area, but also on aquatic resources within the greater catchment with special mention of the Assegaai River. ... Based on the findings of this study, it is the opinion of the ecologists that the project is regarded as having extremely high impacts; unless it is considered economically feasible to treat the decant water post-closure until water quality stabilizes, which could take many decades, to pre-mining water quality standards in such a way as to support the post closure land use, which is envisaged to be protected wilderness.’<sup>64</sup> (my emphasis)*

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<sup>62</sup> Bundle B p. 838

<sup>63</sup> Bundle B p. 878

<sup>64</sup> Bundle C p. 894

63. The NSS biodiversity report had previously reported, as regards AMD that:
- 63.1. *‘AMD represents the most severe impact of coal mining on water resources. ... This acidic water will flow in the groundwater resources and ultimately discharge into streams and rivers...The elevated location of the mine will lead to drainage of contaminated water away from the mine. Since the ... mine will be located in the headwaters of the Assegaai River ... it will threaten more than one water resource and thus users located in the lower catchment’.*<sup>65</sup>
- 63.2. Contamination of groundwater will impact on surface water quality downstream. *‘This contamination will impact on the PES of the wetlands and the eco-services the wetlands can provide, the main one of which is the maintenance of Biodiversity.’*<sup>66</sup>
- 63.3. *‘...the receiving environment for any surface or groundwater contamination is the Assegaai River. This river is a FEPA river. The NFEPA guidelines state that water quality must support keeping wetland FEPAs in good condition (equivalent to an A or B ecological category) for those currently in a good condition ...’*<sup>67</sup> (Note that the Assegaai River is classified as a B ecological category FEPA river i.e. it is currently in a good condition<sup>68</sup>);

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<sup>65</sup> Bundle B p. 771

<sup>66</sup> Bundle B p. 771

<sup>67</sup> Bundle B p. 776

<sup>68</sup> Bundle C p. 940

- 63.4. Contamination of groundwater will impact on surface water quality downstream, including possibly the Assegaai and Mawandlane Rivers<sup>69</sup>; and
- 63.5. The anticipated impact of decant of contaminated groundwater and the resultant impacts on surface water quality, wetlands, aquatic ecology and biodiversity is of ‘HIGH’ significance (NSS’s highest significance rating) both without mitigation and with mitigation (in other words, NSS regards mitigation of this impact as being impossible).<sup>70</sup>
64. With apparent disregard of the scientific evidence detailed above, the EIAR asserts that ‘*the scientific evidence indicates no risk on the [water] quality during the 15 year life of mine with limited risk post closure that can effectively be mitigated*’.<sup>71</sup>
65. Atha’s Integrated Water and Waste Management Plan for Yzermyn Underground Coal Mine (‘the IWWMP’) however acknowledges that water containing contaminants will be generated. It accepts that a water treatment plant will be required during the operation of the mine, and also post-closure. The EIAR provides that, ‘*It is recommended that the treated decant emanating from the treatment plant must be discharged to the adjacent hillslope seepage wetlands making use of a spigot which then drains into a sand filter along the*

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<sup>69</sup> Bundle B p. 772

<sup>70</sup> Bundle B p. 770 (immediately below main heading)

<sup>71</sup> Bundle D (EIAR p 7)

*edge of the hillslope seepage wetland ... This mitigation method will impact on wetlands (positively and negatively).<sup>72</sup>*

66. There are however several problems with Atha's reliance on a water treatment plant as a mitigation measure, including that none of the specialist studies assessed the likely effectiveness of this mitigation measure. Regulation 31(2)(k) of the 2010 EIA regulations requires an assessment of the significance of each environmental issue and the extent to which each impact can be addressed. I now turn to this aspect.

**PART E: THE GAPS IN INFORMATION (fourth ground of appeal in the statement of appeal)**

67. As appears from the grounds of appeal, there are several material gaps in the information which was placed before the Chief Director. I deal with the main ones in this Part.

**E.1 ACID MINE DRAINAGE ('AMD') and the proposed water treatment plant**

68. As stated in paragraph 31.6 above, the DEA in its 16 May 2014 letter required '*[a]dditional ground and surface water studies in order to adequately quantify the anticipated impacts of Acid Mine Drainage resulting from the underground workings of the mine*'.
69. Atha does not dispute that after the DEA's rejection of the original EIAR, no additional surface water studies were undertaken to quantify AMD impacts and/

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<sup>72</sup> Bundle D (EIAR p viii)

or their rigorous management. It refers instead to the Delta H groundwater assessment. As appears from the Delta H groundwater assessment, it considered the risk posed by acid mine drainage only in relation to the discard dump (which is no longer part of the project) and the coal stockpile<sup>73</sup>. It mentioned, but did not assess the risk posed by AMD associated with decant after mine closure.

70. *In lieu* of referring to any specialist report which deals with the risk posed by AMD related to the mine, Atha says ‘*It was clear from these assessments [presumably the Delta H assessment and certain tables prepared by EcoPartners in the EIAR] and a site visit to the historic mine on the property where water samples were collected and assessed and reported on in the EIAR, that the risk of AMD is limited, quantification to the levels of confidence available was done*’<sup>74</sup>.
71. No reference is given for where this site visit is dealt with in the EIAR and no information is provided as regards the details of the site visit: by whom it was undertaken; the precise nature of the tests which were done; or what the actual results were. In any event, what is described here by Atha hardly constitutes a risk assessment of the type required by NEMA and its regulations.
72. As regards the concern raised by SAS quoted in paragraph 62 above, Atha responds as follows ‘*During workshops held impact mitigation measures were discussed among the project professional team and it was determined that through starving the underground workings of oxygen rich air through cutting*

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<sup>73</sup> Bundle B p. 828

<sup>74</sup> Bundle A (Atha’s responding statement p. 273

*it off from the surface and by plugging the adit at closure the risk of AMD is greatly reduced. This was regarded by SAS as being a significant mitigation measure to reduce the risk of impact to the receiving environment'* (Atha responding statement p. 79). The problem is that this workshopped mitigation measure has never been assessed by SAS or by any other specialist.

73. In the GCS review, GCS confirmed the following:

73.1. Delta H failed to simulate the anticipated contaminant plume from the mine workings. The contaminant plume is likely to migrate down-gradient in the shallow aquifer from the location of the underground mining. In the absence of a simulated contaminant plume, it is not possible to identify the water users, wetlands and areas most likely to be affected by groundwater contamination.<sup>75</sup>

73.2. Delta H failed to assess the hydrogeological characteristics of the dolerite sill which it conceptualised to be present between the shallow and deep aquifers, accordingly the migration of potential contaminant plumes from the underground mine workings could not have been – and has not been – established sufficiently.<sup>76</sup> A sill with a higher hydraulic conductivity than that used in the Delta H groundwater assessment could result in higher decant volumes.<sup>77</sup>

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<sup>75</sup> Bundle A p. 354

<sup>76</sup> Bundle A p. 346

<sup>77</sup> Bundle A p. 350:8.1.1

- 73.3. Delta H failed to utilise geochemical modelling and failed to conduct a site-specific assessment to determine the anticipated post-closure decant water qualities and quantities. Accordingly this information – which is necessary for the conceptual design of the water treatment plant – is not available.<sup>78</sup>
- 73.4. A concept design of the water treatment plant has not been reviewed by any environmental specialists. The design of the water treatment plant should have been reviewed and finalised pre-mining in order to determine whether the mine is financially viable (the water treatment plant and decant management system are usually large expenses, which could influence the financial viability of the mine project).<sup>79</sup>
- 73.5. The mitigation measure of discharging treated water into the wetlands has not been assessed by any environmental specialists and it is unknown what the environmental consequences of the impact will be (whether positive or negative).<sup>80</sup>
74. It should be noted that Delta H itself recorded that it was not able to verify its groundwater model and considered the model to be of ‘low confidence’.<sup>81</sup> The Australian groundwater modelling guidelines (Barnett et al, 2012)<sup>82</sup> state that a low confidence (also referred to as a ‘Class 1’) model ‘*has relatively low*

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<sup>78</sup> Bundle A pp. 353 and 358

<sup>79</sup> Bundle A p. 353 and 359

<sup>80</sup> Bundle A p. 355

<sup>81</sup> Bundle B pp. 856 and 878:8.7

<sup>82</sup> Which were referenced by Delta H

*confidence associated with any predictions and is therefore best suited for managing low-value resources (i.e. few groundwater users with few or low-value groundwater dependent ecosystems) for assessing impacts of low-risk developments or when the modelling objectives are relatively modest’.*<sup>83</sup>

75. As noted by GCS ‘*it is evident that the area of and surrounding the proposed mining activity is a moderate to high value groundwater-dependant ecosystem. In light of this, a Class 3 model with a high level of confidence is required before a decision may be taken which will affect the resource’.*<sup>84</sup>
76. The material gaps in information as regards one of the greatest potential impacts of the proposed mine, acid mine drainage, would render any decision by the MEC that environmental authorisation be granted without these gaps having been filled, reviewable on this ground alone.
77. But there are other material gaps in information which Atha put before the Chief Director, which are described in the grounds of appeal and which I summarise here.

## **E.2 Other material gaps in information**

78. The other material gaps in information which would render a positive decision by the MEC reviewable are the following:
- 78.1. The report which was prepared by EcoPartners in an attempt to address the DEA’s request for information about the possible impacts on

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<sup>83</sup> Bundle A p. 352

<sup>84</sup> Bundle A p. 352

downstream users and economic activities (referred to in paragraph 32.3 above), confirms that river water is used by downstream farmers for significant numbers of livestock and for crops, and also by hundreds of farmworkers for domestic use. It identifies the risks posed to these water users, including by water contamination, but fails to assess the likelihood of the contamination occurring or its likely effects<sup>85</sup>. It is clear that EcoPartners lacked the necessary expertise and experience of a specialist in this area.

78.2. Although the DEA requested that a geotechnical specialist study be included in the revised EIAR to address the issue of mine stability and the potential for subsidence (subsidence is a possible feature of underground coal mining which leaves voids that may collapse and cause the earth surface to subside), there is no mention or assessment of the risk of subsidence in Appendix C3 to the EIAR (the updated Geotechnical Study)<sup>86</sup>.

78.3. The EIAR fails to assess cumulative impacts adequately and to evaluate their potential significance reliably<sup>87</sup> including the cumulative impacts that would result from a combination of the mine and other mines in the

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<sup>85</sup> Bundle A pp. 124-125

<sup>86</sup> Bundle A p. 128

<sup>87</sup> A cumulative impact is defined in NEMA as ‘*the impact of an activity that in itself may not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.*’ According to the NEMA 2010 EIA Regulations, potentially significant cumulative impacts must be assessed (31(2)(l)(i)).

area including the Loskop Coal Mine which also falls within the MPE<sup>88</sup>;  
and

78.4. There has been no adequate ground-truthing undertaken to prove that the proposed development does not impact on the reason for the ‘irreplaceability’ classification of the area by the MBSP, which the DEA stated may constitute a fatal flaw<sup>89</sup>.

79. As regards the allegation in paragraph 78.2:

79.1. In its responding statement in this appeal, Atha describes the method of mining which will be employed (of which the DEA was well aware when it asked for a geotechnical report), but does not refer to any specialist report in which it is concluded that the risk of subsidence is considered to be low. Instead Atha refers to a conclusion to this effect which appears to have been drawn by EcoPartners itself in the EIAR (p. 326 of the EIAR).

79.2. The drawing of a conclusion as regards the risk of subsidence lies in the domain of a suitably qualified expert, which EcoPartners is not.

79.3. In any event, the updated Geotechnical Study contains, apart from recommendation as regards pillar design, certain recommendations as regards a roof bolting system. These recommendations have not found their way into the EA conditions.

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<sup>88</sup> Bundle A p. 129. (Bundle B p. 784)

<sup>89</sup> Bundle A p. 129

- 79.4. Atha adds that *'the historical mining adits further confirm the stated risk for subsidence that was submitted is correct'* (Atha responding statement p. 80). But it can never be that a risk such as this can be discounted based on an observation of what has or has not happened to historical mines in the area, let alone what has or has not happened to their entrances (or 'adits').
80. As regards the allegation in paragraph 78.3 above, Atha refers to p. 574 in the EIAR where cumulative impacts are considered. It is correct that certain cumulative impacts are considered there, including those of the several mining applications pending in the area<sup>90</sup>. But the EIAR failed to take into account the Loskop Coal Mine in its analysis of cumulative impacts, despite the fact that it lies 2km to the east of the proposed mine and also falls within the MPE (having been authorised before the area was declared). This is a critical omission.
81. As regards the allegation in paragraph 78.4 above:
- 81.1. Atha's responding statement to this allegation is to refer to the NSS biodiversity report. But the NSS biodiversity report is one of the reports which formed part of the EIAR which served before the DEA and which formed the basis of its rejection of the EIAR.

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<sup>90</sup> The EIAR considers that the cumulative impacts on the wetland habitat and the species it supports are significant – it says among other things *'increased development in the region results in isolation of natural areas, which may lead to decreases in faunal diversity, not only locally, but on a regional scale through population declines as a result of genetic isolation'* (Bundle D (EIAR p. 575)). But NSS went much further than this when it reported that *'If a significant portion of these (mining) applications are approved, the combined impacts of mining, afforestation and agriculture will have a massive deleterious impact on Biodiversity at provincial and national levels'* (Bundle B p. 783)

- 81.2. To the extent that Atha meant to refer to the more recent reports by SAS, namely the SAS 2014 report and the SAS wetland delineation letter: As already noted, the former confirmed the ecological value and sensitivity of the wetlands; and the latter does not contain findings based on anything other than what appears to have been a cursory inspection of the proposed surface infrastructure area<sup>91</sup>.
82. Furthermore under this head, EcoPartners identified that methane gas may be produced as a result of the coal extraction activities, without mitigation<sup>92</sup>. However, the EIAR failed to assess or address this impact at all.
83. Finally under this head, the EIAR fails to deal with the impacts of the borehole pipelines which would pass over certain properties in the MPE. This is so despite the DEA's requirement that it must do so. This is a crucial omission given the sensitivity of the MPE.

### **E.3 Conclusion as regards this part**

84. Section 2(4)(a)(vii) of NEMA provides that '*[s]ustainable development requires the consideration of all relevant factors including ...that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions*'.
85. In *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and*

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<sup>91</sup> See further criticism of this letter by Barry in Bundle A pp. 178-179

<sup>92</sup> Bundle D (EIAR p. 495). See further statement of appeal (Bundle A p. 41) and see *Earthlife Africa Johannesburg v Minister of Environmental Affairs and Others* [2017] 2 All SA 519 (GP)

*Environment, Mpumalanga Province, and Others* 2007 (6) SA 4 (CC), the Constitutional Court held that the precautionary principle requires authorities to insist on adequate precautionary measures to safeguard against the contamination of underground water. *‘This principle is applicable where, due to unavailable scientific knowledge, there is uncertainty as to the future impact of the proposed development. Water is a precious commodity; it is a natural resource that must be protected for the benefit of present and future generations.’*<sup>93</sup> The precautionary principle also requires proper consideration of cumulative impacts<sup>94</sup>.

86. It is clear, in the present instance, that there are simply too many gaps in the scientific information which forms part of the EIAR regarding crucial impacts of the mine for the MEC to make an informed decision as regards the true impacts of the mine on groundwater and surface water resources.

**PART F: THE SOCIO-ECONOMIC IMPACT OF THE MINE (third ground of appeal in the statement of appeal)**

87. Section 24 of the Constitution<sup>95</sup> contains an obligation on the state to promote

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<sup>93</sup> Para 98

<sup>94</sup> Para 99

<sup>95</sup> Section 24 of the Constitution provides that:

*‘Everyone has the right –*

*(a) to an environment that is not harmful to their health or well-being; and*

*(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –*

*(i) prevent pollution and ecological degradation;*

*(ii) promote conservation; and*

*(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development’*

justifiable economic and social development. It also recognises that the environment and development are inexorably linked. Development cannot subsist upon a deteriorating environmental base and the promotion of development requires the protection of the environment<sup>96</sup>.

88. Section 24 therefore requires that development must be ecologically sustainable and that economic and social development must be justifiable in light of the need to protect the environment. Sustainable development and sustainable use and exploitation of natural resources are at the core of the protection of the environment.
89. The first point to be made under this head is that the Constitution places a duty on the state to promote social and economic development, but to do so in a way which is consistent with its duty to protect the environment.
90. The second point is that in this case, an analysis of the benefits which the mine would have for the local community reveals that they are in fact very much more limited than may appear at first sight.

### **F.1 The benefits of the mine for the local community**

91. Whereas the mine would, according to Atha, generate 576 employment opportunities when fully operational (after two years), there is no guarantee contained anywhere in the EIAR, the EMPr or the conditions of EA that these will be sourced locally. The EIAR says in one place that Atha will not provide

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*The state has a duty in terms of section 7(2) of the Constitution to respect, protect, promote and fulfil the right in section 24 of the Constitution.*

<sup>96</sup> *Fuel Retailers* paras 44-45; 74-75; and 79

housing for employees, which ‘will be sourced from surrounding local communities’, but it also says the following:

91.1. *‘[i]t is proposed that semi-skilled and unskilled labour will be obtained from the Gert Sibande District Municipality, specifically from the Pixley ka Seme Local Municipality and Khondo Local Municipality, subject to the recommendations contained within the Social and Labour Plan (SLP). It has been conveyed that where practicable, employment will be sourced locally with the intent to develop local skills required by the mine. However, the more highly skilled personnel such as Artisans, Foremen, Shift and Mine Overseers and Mining and Mechanical /Electrical Engineers will be more difficult to source, and may be sourced on a National level.’<sup>97</sup>;*

91.2. *‘the majority of labour and employees are likely to come from outside the ADI [Area of Direct Influence] due to the lack of skills locally’ (p. 455); and*

91.3. *‘The low skills level within the local communities is indicative that the skills that are required by Atha for the mine are unlikely to be found within the local communities. It is therefore imperative that Atha actively engage in a process of skills development to ensure that local individuals ...are eligible for employment opportunities... Without these measures, this project is unlikely to be socio-economically sustainable*

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<sup>97</sup> Bundle D (EIAR p. 137)

*within the vulnerable socio-economic landscape which currently exists within the Yzermyn area*<sup>98</sup>

92. Despite the reference to a Social and Labour Plan ('SLP') (in the part quoted in paragraph 91.1 above), there is none contained in the EIAR, and the appellants assume that it did not serve before the Chief Director. I return to the SLP below, but first deal with the prospect of local jobs being created in the construction phase.

93. As regards the construction phase, it is anticipated that approximately 70 employment opportunities, with approximately 60 being skilled (operators) and 10 management (supervisory) opportunities will be generated<sup>99</sup>. However the EIAR says the following:

93.1. *[s]killed labour is likely to be sourced from outside the [Area of Direct Influence], either regionally or nationally. In addition, management level staff are likely to be sourced in India (Atha's current mining operations), and brought into manage local operations and transfer skills to local employees/trainees on an on-going basis*<sup>100</sup> (my emphasis); and

93.2. *[a]lthough there may be a small number of additional unskilled opportunities (e.g. security, community liaisons, general labourers and cleaners) ... there is unlikely to be significant opportunities for the local*

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<sup>98</sup> Bundle D (EIAR p. 456)

<sup>99</sup> Bundle D (EIAR p. 458; the socio-economic study (Bundle C p. 1108))

<sup>100</sup> Bundle D (EIAR pp.458-459)

population to be employed during the construction phase, and the opportunities are likely to be temporary<sup>101</sup>.

94. It is clear from this that even in the construction phase, skilled labour is likely to be sourced elsewhere and, although there may be a small number of unskilled opportunities, these are likely to be temporary.
95. In order to ensure that local communities benefit from the mine, the socio-economic study commissioned as part of the EIA process, recommended that skills development and training be implemented by Atha prior to the construction phase to ensure that individuals in local communities may qualify for employment<sup>102</sup>. That has not however been provided for anywhere in the EMPr, or the conditions of the EA.
96. This is a striking omission given that the socio-economic study reported that [d]ue to the limited numbers of unskilled, semi-skilled and skilled employment opportunities, the proposed mine will offer little or no economic benefit for the local area without skills development<sup>103</sup>.
97. What is more is that the SLP itself also contains no guarantees as regards jobs for the local community and limited opportunities for training of the local community. The CER managed to obtain a copy of the SLP pursuant to a PAIA request subsequently to submitting its EA appeal. The following things appear from the SLP:

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<sup>101</sup> Bundle D (EIAR p. 459)

<sup>102</sup> Bundle C pp. 1108-1109 and Bundle D (EIAR p. 460)

<sup>103</sup> Bundle C pp. 1108-1109

- 97.1. The SLP makes no commitment to employing people from the local community. It says, among other things, that Atha ‘*will utilise educated individuals who have registered in the Department of Labour’s database, thereby ensuring that local opportunities are created*’<sup>104</sup>. The SLP itself records that education levels in the local community are low<sup>105</sup>.
- 97.2. Whereas it appears from the SLP that Atha may offer 48 learnership opportunities to people from nearby communities for the first five years, the total budget for these over five years is R342 000. The SLP makes it clear that the learnerships will not necessarily lead to employment by Atha.
- 97.3. The total job potential of the mine (576 jobs) equates in any event to only 0.66% of total coal mining jobs in South Africa. Coal mining only accounted for 4.8% of employment in Mpumalanga in the first quarter of 2014/2015. Agriculture contributed 6.7%. Although there is no official figure for tourism, according to Tourism South Africa’s Annual Report 2009, Mpumalanga was the third most visited province by foreign visitors in 2009.
98. Finally as regards social and economic development, Atha undertakes in the SLP to do the following:

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<sup>104</sup> Bundle C p. 1198

<sup>105</sup> Bundle C p. 1195

- 98.1. To subsidise an existing local mobile clinic (at a cost of R1 300 000.00 in total over five years); and
- 98.2. To build an extra classroom for Sinethemba Agricultural and Technical Secondary School and employ a guest teacher (at a cost of R4 420 000 in total over five years).
99. Atha's total investment in the local community would therefore be R6.06 million over five years (the initiatives in paragraph 98 above and the external learnerships).
100. Total revenue and profit from the mine is expected to exceed R1.235 billion per annum for a ten year period<sup>106</sup>.
101. Even if we assume that the full extent of investment contained in the SLP (R7.73 million) will be spent on the local community (as opposed to also on job seekers from elsewhere), this means that 0.06% of the total anticipated revenue from the mine over ten years, will be spent on the local community (R7.73 million as a percentage of R12.35 billion).

## **F.2 The direct cost of the mine to the local community**

102. The EIAR reports that eco-tourism contributes materially to job-creation in the area and that if mitigation measures are not implemented, environmental

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<sup>106</sup> This appears from Atha's answering affidavit in a review application instituted by the appellants against the grant of Atha's mining right (See Annexure A). Atha says in its answering affidavit that R12.94 billion from the revenue generated from the mine during the first 10 years of the mine's operation will be re-invested in the operation; and that it will spend R1.235 billion per year of the mine's revenue in South Africa

impacts resulting from the proposed mine may degrade surrounding surface and groundwater sources resulting in a reduction of biodiversity in the area and a decline in eco-tourism<sup>107</sup>. The area is surrounded by gazetted protected areas that are significant tourist attractions.

103. The mine area also supports agricultural employment opportunities. The mine area includes three farms (Yzermyn 96 HT Portion 1; Goedgevonden 95 HT; and Kromhoek 93 HT) which are used for the commercial grazing of livestock (sheep and cattle). Several subsistence farmers have also made their homes on the proposed mining site, which has good to excellent grazing capacity<sup>108</sup>.
104. There are approximately eight homesteads situated on the proposed mining site which are occupied by low-income families with between eight and thirty people living in each homestead. The households generally rely on limited income from a single family member who works on the host farm, as well as on social grants. This community *'is vulnerable from a livelihood perspective, as they do not have access to finances or other resources should their current income come to an end (i.e. farm work) or access to natural resources, such as water and grazing land, be prevented'*<sup>109</sup>.
105. The EIAR does not assess with sufficient precision what the likelihood of the loss of this livelihood is, or what the likelihood of loss of agricultural income and resources in the larger area may be<sup>110</sup>. What the EIAR does say is that *'[i]t*

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<sup>107</sup> Bundle D (EIAR p. 97) and Bundle C p. 1099

<sup>108</sup> Bundle D (EIAR pp. 83-84)

<sup>109</sup> Bundle C p. 1097

<sup>110</sup> Bundle D (EIAR p. 462)

*is imperative that, in order to offset any potential economic or livelihood loss within the socio-economic landscape, local communities will need to be uplifted, up-skilled and employed by the mining operations’.*

106. In particular, the EIAR records that water is sourced by farmers in the area from springs (referred to locally as ‘fontaine’) which are used for both domestic and livestock watering purposes<sup>111</sup>. As noted above, there are several springs within the proposed underground mining area<sup>112</sup> and it is common cause that these will be affected by the drawdown of groundwater caused by underground mining.
107. Moreover, possible ‘decant’ points (the points at which contaminated water from the mine void is likely to be released onto the surface post mine closure) are, apart from anything else, potentially connected to the springs<sup>113</sup>.
108. The mine will also have direct consequences for a family residing within 500 metres of the proposed adit entrance to the mine<sup>114</sup>. The mining activities are likely to result in damage to this homestead, and to have dust, noise, safety and visual impacts, with negative consequences for the family residing there, as well their cattle, crops and quality of life. Atha is therefore required to develop a resettlement plan for this family prior to commencement of construction of the mine. The Chief Director appears not to have been aware that this relocation would need to take place (referring only to what should happen if any

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<sup>111</sup> Bundle D (EIAR pp. 181-182)

<sup>112</sup> Bundle D (EIAR p. 182)

<sup>113</sup> Bundle D (EIAR p. 342)

<sup>114</sup> Bundle D (EIAR p. 458) and Bundle C p. 1107

relocations should take place) <sup>115</sup>. It is therefore not clear that he took into account the impacts of the proposed mine on this family. As far as the appellants are aware, Atha has not yet prepared a resettlement plan.

109. These negative impacts on the local community do not take into account the long-term consequences of ground and surface water contamination, including acid mine drainage.

110. It is respectfully submitted that the granting of an environmental authorisation in these circumstances would not be consistent with the state's duty to promote justifiable economic and social development. It would also conflict with section 2(4)(c) of NEMA which provides that '*[e]nvironmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged people*'.

#### **PART G: THE MINE IN CONTEXT**

111. The Chief Director relied in large part on the following reason for granting the EA: '*South Africa is heavily reliant on thermal coal for power generation. Both local and international markets are highly dependent on South Africa being a main provider of coal. The identification and exploitation of new coal reserves in South Africa is therefore a prerequisite in meeting this demand.*'

112. As appears below however, the mine would be one of the smaller mines in the area and the quality of coal to be mined is relatively poor.

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<sup>115</sup>Bundle B p. 410:3.61

113. South Africa's coal reserves are estimated at around 30 billion tonnes. At current rates of production, South Africa has reserves sufficient to satisfy its needs for more than a century<sup>116</sup>.
114. Based on an estimated coal resource of 80.32 Mt<sup>117</sup>, the proposed mine would contribute only 0.86% of South Africa's total coal reserves. In terms of estimated coal production, the mine aims to produce approximately 2.25 million tonnes of ore per year.
115. Mpumalanga contains the bulk of South Africa's marketable coal reserves<sup>118</sup>. Approximately 81% of the total amount of coal produced in South Africa is mined in Mpumalanga<sup>119</sup>. On average, however, existing coal mines in Mpumalanga have larger coal resources than what the proposed mine has<sup>120</sup>. The coal resource targeted by the mine is therefore relatively marginal. In this regard see also the vast areas in the immediate vicinity of the proposed mine in respect of which mining applications were pending when NSS compiled its report<sup>121</sup>.

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<sup>116</sup> This appears from a document entitled "*Key Facts and Figures*" on the Chamber of Mines' website.

<sup>117</sup> Bundle B p. 413:4b

<sup>118</sup> (62%) (approximately 18.6 billion tonnes) Bundle D (EIAR p. 89)

<sup>119</sup> XMP Consulting '*Review of the South African Coal Mining Industry*', 2013 (Bundle C p. 1231)

<sup>120</sup> For instance, Optimum Colliery, located mainly in the Mpumalanga province, has a coal resource of over 700 Mt. Other mines with large coal resource bases include Manungu (coal resource base of +460 Mt); Goedehoop Colliery (coal resource base of +310 Mt); and Goedevoden Colliery (coal resource base of +221 Mt) (XMP Consulting *South African Coal Desktop Study*, 2014 pp. 11-25. The proposed mine has, by way of contrast a gross *in situ* resource of only 80.32 Mt (EIAR p. 4) (not allowing for losses, which could significantly reduce the estimated coal resource). This accounts for only 0.43% of Mpumalanga's coal reserves (XMP Consulting *Review of the South African Coal Mining Industry*, 2013 p. 4)

<sup>121</sup> Bundle B p. 784

116. Atha also expects to export up to 67.4% of saleable coal product (1,234,032 tons) via Richards Bay Coal Terminal. The remaining 32.6% of the saleable coal is expected to be transported to supply Eskom power stations (597,840 tons)<sup>122</sup>. This project proposes roughly the inverse of the national average of 7:3 split of local use to export and suggests that the project is not aimed at ensuring local energy security. (I pause here to point out that there is no evidence of any supply agreement with Eskom, or any negotiations underway.)
117. The quality of the coal to be mined by Atha is also relatively poor<sup>123</sup>. The coal quality would thus be categorised as '*low grade bituminous coal*'.
118. Due to multiple constraints on the future production rate of coal mining in South Africa (coal and climate policy, environmental impacts and peak production) it is evident that priority should be given, in granting environmental authorisations, to coal projects that will produce high quality/grade coal. In this regard I point out that:
- 118.1. Coal power generation accounts for over 70% of South Africa's total greenhouse gas emissions. Coal provides 81% of the power generated by state-owned power utility Eskom. Eskom operates 16 power stations and is building two more to come on stream by 2021. In the year to end-March 2015 Eskom bought *122Mt of thermal coal*.

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<sup>122</sup> Bundle D (EIAR p. 4)

<sup>123</sup> Bundle D (EIAR pp. 102-103). The calorific value ('CV') of the coal resource ranges between 23.92-24.22 MJ/kg, with an average CV of 24.09. Bituminous coal ranges from 24 to 35 MJ/kg.

- 118.2. In 2008 South Africa committed to a 'peak, plateau and decline' ('PPD') emissions trajectory, which requires emissions to peak by 2020-2025, stabilise for up to ten years and then decline in absolute terms<sup>124</sup>.
- 118.3. Thus, South Africa's climate change commitments, framed in the Intended Nationally Determined Contributions, 2005 requires an even sharper decline in coal production (and consumption) than anticipated declines in production due to natural limits of the resource (or peak production rates).
119. Finally under this head, Mpumalanga is 7 649 500 ha, making up only 6.5% of South Africa's land. The fact that 82% of South Africa's total coal production occurs in only 6.5% of its area highlights the intense concentration of coal production in the area. Excluding the Kruger National Park, a total of 472 707 ha or only 6.1% of the province is included within formal protected areas, as defined in NEMPAA. The MPE is a relatively small area of approximately 8772 ha.
120. The proper application of the principle in section 2(4)(a)(v) of NEMA, namely that '*the use and exploitation of non-renewable natural resources is responsible and equitable...*' requires that careful consideration be given to these issues. Since they did not form part of any specialist report or the EIAR, this represents a further material gap in the information which was placed before the decision-

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<sup>124</sup> (LTMS, 2008) (Energy Research Centre 2007 Long Term Mitigation Scenarios: Technical Appendix, Department of Environment Affairs and Tourism, Pretoria, October 2007)

maker. This gap would need to be closed by the obtaining of appropriate specialist input before a final decision could be taken.

121. I point out that the information contained in this Part (Part G) did not form part of the statement of appeal. By reason of the fact that this is a wide appeal however, it is submitted that it ought to be considered by the MEC. Should Atha however require an opportunity to comment on this part, it is respectfully submitted that that opportunity ought to be granted.

**PART H: THE EMPr DOES NOT MEET THE APPLICABLE STATUTORY REQUIREMENTS (ninth ground of appeal in the statement of appeal)**

122. This ground of appeal is dealt with in the statement of appeal<sup>125</sup>.
123. For present purposes, I highlight simply the following:
124. In terms of section 24N, an EMPr must contain:
- 124.1. Information on any proposed mitigation, protection or remedial measures that will be undertaken, including environmental impacts in respect of closure (section 24N(2)(a)); and
- 124.2. Time periods within which the measures contemplated in the EMPr must be implemented (section 24N(3)(a)).
125. Despite the fact that one of the main mitigation or protection measures is intended to be a water treatment plant, there is absolutely no reference to it in

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<sup>125</sup> Bundle A (statement of appeal p. 54)

the EMPr, let alone sufficient information about its design or capacity or any stipulation as regards when it must be constructed.

126. All that the EMPr says is that Atha must '*[e]nsure that no decant occurs throughout the life and post-closure of the facility*'. The action required in this regard is for Atha to '*implement groundwater level management as per the recommendations of the geohydrological report*'<sup>126</sup>.
127. Neither of the groundwater assessments contained an assessment of this mitigation measure.
128. As regards groundwater contamination, the EMPr requires merely the implementation of a monitoring programme of the groundwater plume. It says '*should it become evident that significant impacts (such as the formation of Acid Mine Drainage) on the aquatic ecology of the Mkuzase and Mawandlane Rivers and the unnamed tributaries of the Assegaai River and their associated floodplains are taking place, consideration should be given to dewatering of the contaminated aquifers and boreholes downgradient of the relevant TSF*'<sup>127</sup>.
129. This is at best a remedial measure, the likely efficacy of which has not been assessed. There are no details as regards when or how this must be done and nothing in the groundwater assessments to suggest that it might be successful.

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<sup>126</sup> Bundle D (EMPr 623)

<sup>127</sup> Bundle D (EMPr 623)

130. The EMPr mentions also the sealing off water bearing geological structures like faults and dykes to limit the impact of mine dewatering<sup>128</sup>, but this is also not something which was assessed in any of the groundwater assessments.
131. It is respectfully submitted that these material shortcoming in the EMPr would need to be addressed before environmental authorisation could validly be granted.

**PART I: ECOPARTNERS NOT REGISTERED (eighth ground of appeal in the statement of appeal)**

132. In the statement of appeal, the appellants raised the contention<sup>129</sup> that they have been unable to establish that either Charlaine Baartjes or San Oosthuizen of EcoPartners<sup>130</sup> are professionally registered with the South African Council for Natural Scientific Professions as they are required to be in terms of sections 18(2) and 20(1) of the Natural Scientific Professions Act 27 of 2003 before they may act as paid Environmental Assessment Practitioners.
133. In its responding statement, Atha responded<sup>131</sup> as follows: *‘The law relied on does not address Environmental Assessment Practitioners at all, as it does not include environmental management within its scope. Environmental management is not a natural science. Further to this ... according to the notice as published in the government gazette, environmental management is not a*

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<sup>128</sup> Bundle D (EMPr p. 609)

<sup>129</sup> Bundle A (statement of appeal p. 53:109)

<sup>130</sup> These are the names given of the people responsible for compiling the EIAR. Bundle D (EIAR p. 780)

<sup>131</sup> Bundle A (Atha’s responding statement pp. 289-290)

*natural science field of practice in the act relied on here. Consulting regarding environment management does not require registration through SACNASP.’*

134. The appellants persist in their contention that Environmental Assessment Practitioners are required to be professionally registered with the South African Council for Natural Scientific Professions in terms of the Natural Scientific Professions Act in order to practise professionally, and accordingly that Charlaine Baartjes and San Oosthuizen were required to be registered. ‘Environmental science’ is listed as a field of practice in the natural scientific professions under the Act and is accordingly regulated by the Act.<sup>132</sup> The South African Council for Natural Scientific Professions regards ‘*Environmental consulting on environmental impact assessments*’ and ‘*Management (e.g.: environmental impact assessment, environmental law, environmental auditing, etc.)*’ as falling within the ambit of the field of practice of ‘Environmental science’ for the purposes of the Act.<sup>133</sup>
135. Accordingly, it is clear that Charlaine Baartjes and San Oosthuizen were required to be registered with the Council for Natural Scientific Professions in terms of the Act in order to practise as Environmental Assessment Practitioners.

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<sup>132</sup> See Schedule 1 to the Act and GN No. 79 in GG No. 39433 (dated 20 November 2015), which is the most recent update to Schedule 1 to the Act

<sup>133</sup> See the South African Council for Natural Scientific Professions information sheet about professional registration in the field of practice of ‘Environmental Science’, available at [http://www.sacnasp.org.za/files/20/Work\\_Experience\\_Requirement/30/Environmental\\_Science.doc](http://www.sacnasp.org.za/files/20/Work_Experience_Requirement/30/Environmental_Science.doc). See specifically para 4, under the heading ‘Educational requirements’, on p. 2, and see the list on p. 4

136. Were the MEC to grant environmental authorisation on the basis of an EIAR which has been prepared by an unregistered EAP, that would give rise to a further ground of review.

**PART J: PROCEDURAL FAIRNESS (a future ground of review)**

137. While this aspect was not addressed in the statement of appeal, it appears from the EIAR that the SAS wetland delineation letter did not in fact form part of the public participation process. The findings of this letter however formed a crucial part of the Chief Director's decision<sup>134</sup>. In fact the Chief Director also took into account the findings of a further site visit on 19 May 2016, which were also never put to the public<sup>135</sup>.
138. Were the MEC to grant environmental authorisation without giving interested and affected parties an opportunity to comment on the SAS wetland delineation letter and the findings of the further site visit on 19 May 2016, the decision would be rendered reviewable in terms of section 33(1) of the Constitution and sections 3 and 4 of the Promotion of Administrative Justice Act No. 3 of 2000 ('PAJA').
139. Because of the wide nature of the appeal, it is submitted that the MEC may and ought to take this into account. To the extent that Atha requires an opportunity to comment on this aspect, the appellants have no objection to that opportunity being granted.

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<sup>134</sup> See Bundle B p. 415 at paras (e) and (f)

<sup>135</sup> Bundle B p. 413

**PART K: CONSIDERATION OF THE LEGAL SIGNIFICANCE OF THE MPE**

**(a future ground of review)**

140. The MEC ought to proceed, it is respectfully submitted, on the basis that mining will only be permitted in a protected area in exceptional circumstances, and particularly so where the mining is harmful to the environment. That this is so arises from *inter alia* the following:

140.1. In terms of its long title, NEMPAA provides for the '*protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes*'.

The terms 'conservation' and 'protection' indicate that any impact of an activity within a protected area that is inimical to or undermining of either 'conservation' or 'protection' will be in conflict with the achievement of the purpose of the legislation.

140.2. Objective (c) in section 2 of NEMPAA envisages a system of protected areas as part of a strategy to manage and conserve biodiversity. Activities of the kind identified in the preceding subparagraph would be in conflict with the achievement of this objective.

140.3. Objective (e) in section 2 of NEMPAA envisages the '*sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas*'. Activities in protected areas that damage the ecological character of such areas, would be inconsistent with the objectives of the Act.

140.4. The MEC would be acting in conflict with his duty as trustee under section 3 of NEMPAA were he to permit mining in circumstances that failed to maintain a protected area in its protected state for the benefit of future generations for whom they act as trustees.

140.5. Section 17 of NEMPAA, identifies a range of purposes of the declaration of protected areas, from which it is clear that any form of mining that operates in conflict with those protective purposes would be impermissible, particularly where it will impact on –

140.5.1. the preservation of the ecological integrity of protected areas (paragraph (b));

140.5.2. the conservation of biodiversity in protected areas (paragraph (c));

140.5.3. the protection of areas that are vulnerable or ecologically sensitive (paragraph (f));

140.5.4. the sustained supply of environmental goods and services, particularly – in this matter – fresh water (paragraph (g));

140.5.5. the sustainable use of natural and biological resources, particularly – in this matter – fresh water (paragraph (h));

140.5.6. destinations for nature based-tourism (paragraph (i)); and

140.5.7. the promotion of the recovery of endangered and vulnerable species (paragraph (l)).

141. A proposed mining operation will thus attract a much higher level of scrutiny if it is to take place in a protected environment than if this is not the case. That is because the proposed mining is intended to take place in an area which has been formally identified as being strategically important for South Africa's protected area network and because of the specific provisions of NEMPAA identified in the immediately preceding paragraphs.
142. While it is implicit in section 48(1) of NEMPAA that some kinds of mining may be allowed in some protected environments in some circumstances, it must be accepted that the more environmentally invasive and/or harmful the type of mining which is proposed, and the more strategically important and sensitive the receiving environment is, the less likely it is that permission will be granted. Thus, while gravel pits; granite and stone cutting; or even sand mining (all of which constitute mining in terms of the MPRDA), might be permitted in certain protected environments in exceptional circumstances, it is difficult to conceive of any circumstances under which underground coal mining would be permitted in a protected environment.
143. The fact that the mine would be located in a protected environment is something which, it is submitted, requires specific and careful consideration by the MEC.
144. It is furthermore submitted that the absence of a management plan for the MPE, which is required in terms of NEMPAA, and which must include '*a zoning of the [protected] area indicating what activities may take place in different sections of the area*' (section 41(2)(g)), precludes the MEC from granting

environmental authorisation until such plan has been adopted, and only then, if the mining falls within a permitted activity for the zone in question.

145. I point out that to the extent that Atha requires an opportunity to comment on the argument in this part (Part K) which, although implicit in the statement of appeal, has been developed in these submissions, that opportunity ought to be granted.

**PART L: COMPETENT AUTHORITY – THE MINISTER (second ground of appeal in the statement of appeal)**

**L.1 The legislative framework**

146. Section 24(2)(a) of NEMA provides (and provided at all material times) that *‘[t]he Minister...may identify activities which may not commence without environmental authorisation from the competent authority’*.
147. Section 24C(1) of NEMA provides (and provided at all material times) that *‘[w]hen listing or specifying activities in terms of section 24(2) the Minister... must identify the competent authority responsible for granting environmental authorisations in respect of those activities’*.
148. Section 24C(2) of NEMA contains certain provisions with which the Environment Minister must comply when identifying the competent authority responsible for granting an environmental authorisation in respect of the identified activities.

149. Section 24D of NEMA provides (and provided at all material times) that ‘*[t]he Minister ... must publish in the relevant Gazette a notice containing a list of – (a) activities or areas identified in terms of section 24(2); and (b) competent authorities identified in terms of section 24C*’.
150. In short, these sections require that the activities which may not commence without environmental authorisation must be identified in a list published in the Government Gazette and that the competent authority in relation to those activities must be identified in the same notice (‘listing notices’). The Environment Minister must, in so doing, comply with the provisions of section 24C of NEMA.
151. At the time that the new application was made to the DEA on 8 June 2013, section 24C(2)(a) of NEMA provided that the Environment Minister must be identified as the competent authority in terms of subsection (1) if the activity ‘*has implications for international environmental commitments or relations*’<sup>136</sup>.
152. The Environment Minister was accordingly identified in the 2010 EIA listing notices as the competent authority in relation to an application for an activity contemplated in s 24C(2) of NEMA<sup>137</sup>.

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<sup>136</sup> Section 24C(2)(a) of NEMA was substituted by section 6 of Act 30 of 2013 with effect from 18 December 2013, *after* the new application had been submitted.

<sup>137</sup> Note that although the 2010 Listing Notice 2 refers to the Minister of Mineral Resources (‘the Minerals Minister’) as being the competent authority if ‘*the activity is to be conducted in or on a mining area or is to transform the area where the activity is to be conducted into a mining area*’, until section 24C(2A) of NEMA had been amended (with effect from 8 December 2014), it would not have been competent for Listing Notice 2 to identify the Minerals Minister as a competent authority in terms of NEMA. Consistent with this view is the fact that activities 20 to 23 were not brought into effect when the remainder of the notice was (see Notice No. 662 in Government Gazette 33411 dated 30 July 2010). The 2010 Listing Notice 2 must be interpreted in a way that it is *intra vires*

153. As appears from the remainder of this part, the activities authorised in the EA do have implications for international environmental commitments and relations.
154. At the time that the new application was submitted, the Environment Minister was therefore the competent authority.
155. The Environment Minister remained the competent authority at the time that the application was decided by the Chief Director by virtue of the transitional provisions contained in the NEMA Environmental Impact Assessment Regulations, 2014<sup>138</sup> ('the 2014 EIA regulations' )<sup>139</sup>.
156. The Environment Minister is still the competent authority by virtue of regulation 10 of the National Appeal Regulations, 2014 as amended<sup>140</sup>.
157. The Environment Minister was therefore the competent authority at all relevant times, because several of the listed activities which are triggered by the proposed mine have implications for international environmental commitments or relations.

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<sup>138</sup> Published in notice no. 982 in Government Gazette 38282 dated 4 December 2014

<sup>139</sup> Published in Notice No. 982 in Government Gazette 10328 dated 4 December 2014. Regulation 53(1) of the 2014 EIA regulations. The 'previous NEMA regulations' are a reference to the 2010 NEMA regulations read with the 2010 NEMA listing notices (See regulation 3(2) of the 2010 NEMA regulations which refers to the 2010 NEMA listing notices)

<sup>140</sup> Published in Notice No. 993 in Government Gazette 38303 dated 8 December 2014 and amended by Notice No. 205 in Government Gazette 38559 dated 12 March 2015. The legislative framework is in keeping with the presumption that statutes apply to future matters only. Where a procedure has commenced under an earlier version of an Act the earlier version of the Act applies, especially where it has not just procedural but also substantive implications (*Sigcau v President of the Republic of South Africa* 2013 (9) BCLR 1091 (CC) paras 20 to 21)

158. The international environmental commitments for which the listed activities have implications are the following:

### **L.2 The Convention on Wetlands of International Importance**

159. The Convention on Wetlands of International Importance came into force in South Africa on 21 December 1975 ('the Ramsar Convention').
160. The Ramsar Convention places a general obligation on South Africa to protect and promote the conservation of wetlands in its territory<sup>141</sup>. This is regardless of whether or not such wetlands are listed in terms of the Convention.
161. The mine which would, by the account of several specialists, negatively affect wetlands of the quality and ecological importance of the wetlands here in issue, would have implications for South Africa's international environmental obligations in terms of the Ramsar Convention<sup>142</sup>.
162. Atha's answer in its replying statement is that the Convention is not of application because there is no Ramsar wetland on the site<sup>143</sup>. The obligation on South Africa however goes beyond the protection of listed sites and encompasses the protection and promotion of conservation of wetlands in its territory.
163. The Environment Minister is for this reason the correct competent authority.

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<sup>141</sup> Bundle B p. 1249: Articles 3(1) and 4(1) and 4(4)

<sup>142</sup> See Bundle A (answering statement) 334:23-25

<sup>143</sup> Bundle A (Atha's responding statement) 291

### **L.3 The Convention on the Conservation of Migratory Species of Wild Animals**

164. South Africa acceded to the Convention on the Conservation of Migratory Species of Wild Animals ('the Migratory Species Convention') in 1991.
165. In terms of the Migratory Species Convention, South Africa undertook, among other things, to endeavour to conclude agreements covering the conservation and management of migratory species included in Appendix II<sup>144</sup>.
166. Four of the species which are included in Appendix II to the Migratory Species Convention are the *Ciconia ciconia* (White Stork); the *Threskiornis aethiopicus* (Sub-Saharan Africa and Southwest Asia (Iran/Iraq) populations) (African Sacred Ibis); the *Platalea alba* (excluding Malagasy [i.e. Madagascar] population) (African Spoonbill); and the *Coturnix coturnix coturnix* (Common Quail).
167. As appears from the NSS biodiversity report, all of these have been recorded as occurring in several areas (or 'pentads') which coincide with the proposed mine. The White Stork and Common Quail occur in the precise area where the surface infrastructure will be placed, regardless of its revised configuration for the Best Environmental Option<sup>145</sup>.
168. The NSS biodiversity report does not assess likely impacts of the proposed mine on these species specifically, but records that removal of vegetation for

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<sup>144</sup> Bundle B 1251: Article II(3)(c)

<sup>145</sup> Bundle B pp. 574, 619 and 620 – the pentad into which the surface infrastructure will fall has remained the same

proposed surface infrastructure will cause loss of breeding and foraging habitat including for several bird species<sup>146</sup>.

169. It stands to reason that any activity which may impact on species listed in Appendix II to the Migratory Species Convention would also have implications for South Africa's duty to conclude agreements covering the conservation and management of such species<sup>147</sup>.
170. For this reason too, the Environment Minister is in fact the correct competent authority.

#### **L.4 The Convention on Biological Diversity**

171. South Africa ratified the Convention on Biological Diversity ('the Biological Diversity Convention') on 2 November 1995.
172. The Biological Diversity Convention provides that contracting parties shall, among other things<sup>148</sup>:
- 172.1. Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity<sup>149</sup>;
- 172.2. Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings<sup>150</sup>;

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<sup>146</sup> Bundle B p. 756

<sup>147</sup> Bundle A (statement of appeal) 39:63; and (answering statement) 334-335:26-31

<sup>148</sup> Bundle C 1254-1256

<sup>149</sup> Article 8(a)

<sup>150</sup> Article 8(d)

- 172.3. Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering the protection of these areas<sup>151</sup>; and
- 172.4. Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations<sup>152</sup>.
173. The Biological Diversity Convention was given effect to in part by the Biodiversity Act.
174. In terms of section 56(1) of the Biodiversity Act, the Environment Minister may by notice in the Gazette publish a list of –
- 174.1. Critically endangered species, being any indigenous species facing an extremely high risk of extinction in the wild in the immediate future;
- 174.2. Endangered species, being any indigenous species facing a high risk of extinction in the wild in the near future, although they are not a critically endangered species;
- 174.3. Vulnerable species, being any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future, although they are not a critically endangered species or an endangered species;

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<sup>151</sup> Article 8(e)

<sup>152</sup> Article 8(k)

- 174.4. Protected species, being any species which are of high conservation value or national importance or require regulation in order to ensure that the species are managed in an ecologically sustainable manner.
175. In terms of section 57(1) of the Biodiversity Act ‘*[a] person may not carry out a restricted activity involving a specimen of a listed threatened or protected species without a permit issued in terms of Chapter 7*’.
176. ‘*Restricted activity*’ is defined in section 1 of the Biodiversity Act as meaning, among other things, ‘*conveying, moving or otherwise translocating any specimen of a listed threatened or protected species*’.
177. On 23 February 2007 the Environment Minister published a list of critically endangered, endangered, vulnerable and protected species in the Government Gazette (‘the species listing notice’)<sup>153</sup>.
178. Although the NSS biodiversity report describes the threatened status of the various flora and fauna found in the study area with reference to the IUCN Red Lists which do not necessarily coincide with the species listing notice, there are several mammal species which overlap between the two, including the *Chrysospalax villosus* (Rough-haired Golden Mole) (Critically Endangered); the *Parahyaena brunne* (Brown Hyaena) (Protected Species); and the *Leptailurus serval* (Serval) (Protected Species)<sup>154</sup>.

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<sup>153</sup> Notice 151 in GG 29657 dated 23 February 2007 Bundle C 1257-1263

<sup>154</sup> Bundle B pp. 598-599

179. All of these are deemed to be Present or Highly Likely to occur in the study area<sup>155</sup>.
180. The appellants have not conducted a similar comparison in relation to other fauna or flora found on the site but the EA appears to assume that there will be listed species which will need to be removed from the site – see condition 3.57 which provides that *‘[a] permit must be obtained from the Mpumalanga Tourism and Parks Agency for the removal or destruction of indigenous protected and endangered plant and animal species’*.
181. It is clear from this that the proposed activity would have implications for threatened species or species with significant conservation value and therefore for South Africa’s international environmental commitments in terms of the Biological Diversity Convention<sup>156</sup>.
182. For this reason too, the Environment Minister is in fact the correct competent authority.

#### **L.5 The United Nations Framework Convention on Climate Change**

183. South Africa ratified the United Nations Framework Convention on Climate Change on 29 August 1997. It acceded to the Kyoto Protocol in July 2002.
184. As noted in annexure ‘H’ to the statement of appeal<sup>157</sup>:

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<sup>155</sup> Bundle B pp. 598-599. The appellants note in this regard that to the extent that Atha relies on a subsequent visit by SAS to the site to contend that in fact these species were not seen there, and that they are therefore unlikely to exist there, this contention can obviously not be relied upon to dismiss the detailed and thorough investigations performed and reported on by the biodiversity specialist, NSS

<sup>156</sup> Bundle A (statement of appeal) 39:63; and (answering statement) 336-338:32-42

<sup>157</sup> Bundle A (statement of appeal) 185-191

- 184.1. Underground coal mines, such as the proposed mine, are a large direct contributor of greenhouse gases ('GHG') emissions, particularly methane gas. Methane is estimated to have a global warming potential 23 times higher than carbon dioxide. Methane emissions from coal mining have been estimated to contribute 6-10% of total anthropogenic global methane emissions, with such emissions predicted to rise by 15% by 2020.
- 184.2. EcoPartners identified that methane gas may be produced as a result of the coal extraction activities, without mitigation<sup>158</sup>. However, the EIAR failed to assess or address this impact at all.
- 184.3. South Africa's Intended Nationally Determined Contribution ('INDC') commits to emissions in a range between 398 and 614 Mt CO<sub>2</sub>-eq between 2025 and 2030 within the PPD trajectory.
- 184.4. On 22 April 2016 South Africa signed the Paris Agreement in terms of which parties are obliged to submit new INDCs every 5 years and they can at any time adjust their INDCs, but only with a view to enhancing their commitments. The first global stocktake is due to take place in 2023 and every 5 years thereafter.
- 184.5. The effect of this is that South Africa can only commit to more stringent GHG emission reduction targets, meaning that concerted efforts will be

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<sup>158</sup> Bundle D (EIAR p. 495)

required by the South African government to reduce its GHG emissions with a view to further reducing the country's GHG emissions.

184.6. Authorising an underground coal mine without assessing its emissions flies in the face of this commitment.

184.7. South Africa is already one of the world's largest contributors to global climate change, having produced around 547Mt of carbon dioxide equivalent (CO<sub>2</sub>-eq) in 2010 (around 231.9 Mt is produced by the electricity sector alone). The South African government has recognised the need for climate action and has set 398Mt CO<sub>2</sub>-eq per year as the target limit for CO<sub>2</sub> by 2025.

185. It is clear that the proposed coal mine and others like it will have implications for South Africa's international environmental commitments in terms of the United Nations Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement<sup>159</sup>.

186. The appellants therefore persist in the contention that the Environment Minister is in fact the competent authority in terms of NEMA.

### **L.6 Conclusion under this head**

187. When the Chief Director granted the EA on 7 June 2016:

187.1. He was not authorised to do so in terms of s 24(2)(a) of NEMA;

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<sup>159</sup> Bundle A (statement of appeal) 38-39:61-62 and (answering statement) 339-341:43-47

187.2. The decision was materially influenced by an error of law; and

187.3. The decision contravened s 24(2)(a) of NEMA.

188. If the MEC were to reject the appeal and confirm the EA, his decision would be reviewable in terms of PAJA on one or more of these grounds (namely sections 6(2)(a)(i); 6(2)(d); 6(f)(i) of PAJA).

**PART M: COMPETENT AUTHORITY – CHANGED AFTER REJECTION OF THE EIAR (included as part of second ground of appeal in the statement of appeal)**

189. If the appellants are wrong that the Environment Minister was and is the competent authority, and it is in fact the MEC who was and is the competent authority, the ground of appeal under this head is that it is was nevertheless incompetent for the Chief Director to have granted the EA (and would be incompetent for the MEC to grant the EA) because:

189.1. The new application was made to the Environment Minister, who was treated as, and who played the role of the competent authority throughout the EIA process;

189.2. The Mpumalanga Environmental Department acted throughout the process as a commenting authority; and

189.3. None of the requisite legislative or regulatory steps which were required to precede a decision by the MEC was ever taken.

190. On 26 July 2012, Atha completed an application form for authorisation in terms of NEMA and the 2010 EIA regulations<sup>160</sup> to be submitted to the Mpumalanga Environmental Department in respect of certain listed activities associated with the mine ('the initial application')<sup>161</sup>. There is no signed letter of acceptance of the initial application by the Mpumalanga Environmental Department in the EIAR appendices, and the appellants do not know whether the initial application was in fact ever submitted. As may be inferred however from the fact that a new application was subsequently submitted to the DEA, the initial application was either never submitted or was withdrawn or lapsed in terms of regulation 67 of the 2010 EIA regulations. This submission proceeds on the assumption (but without making the concession) that this application was submitted, but that it was withdrawn or lapsed. Whatever the case, it was never persisted with.
191. On 20 June 2013, Atha submitted a new application for authorisation in terms of NEMA and the 2010 EIA regulations to the DEA, also in respect of activities associated with the mine ('the new application'). The new application was a combined environmental authorisation and waste management license application<sup>162</sup>. (I pause here to note that it is common cause that the application

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<sup>160</sup> The Environmental Impact Assessment Regulations, 2010 published in Notice No. 664 in *Government Gazette* 33411 dated 30 July 2010 (as amended by Notice No. 1159 in *Government Gazette* 33842 dated 10 December 2010 ('the amending notice')); the Environmental Impact Assessment Regulations Listing Notice 1 of 2010, published in Notice No. 544 in *Government Gazette* 33306 dated 18 June 2010 (as amended by the amending notice); the Environmental Impact Assessment Regulations Listing Notice 2 of 2010, published in Notice No. 545 in *Government Gazette* 33306 dated 18 June 2010 (as amended by the amending notice); and the Environmental Impact Assessment Regulations Listing Notice 3 of 2010, published in Notice No. 546 in *Government Gazette* 33306 dated 18 June 2010 (as amended by the amending notice)

<sup>161</sup> Bundle B 1264-1278

<sup>162</sup> Bundle C p. 1279-1332

had to be dispensed with in terms of the 2010 EIA regulations<sup>163</sup>. The appeal must also be dispensed with in terms of the 2010 EIA regulations<sup>164</sup>).

192. Throughout the EIA process in 2013 and at least until the end of February 2015 the Minister assumed the role of the competent authority<sup>165</sup>.

193. The 2010 EIA regulations contained detailed provisions governing the submission, processing and consideration of applications for environmental authorisations including, in the case of applications which were subject to scoping and environmental impact reporting, including the submission of a scoping report to the competent authority and an environmental impact assessment report.

194. Regulation 34 of the 2010 EIA regulations provided at the relevant times that:

*‘(2) The competent authority must, within 60 days of receipt of an environmental impact assessment report, in writing-*

*(a) accept the report; or*

*(b) reject the report if it does not substantially comply with regulation 31(2) and*

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<sup>163</sup> Regulation 53(1) of the 2014 EIA regulations

<sup>164</sup> Regulation 10(2) of the National Appeal Regulations, 2014 as amended (first published as notice no. 993 in *Government Gazette* 38303 dated 8 December 2014 and amended by notice no. 205 in *Government Gazette* 38559 dated 12 March 2015)

<sup>165</sup> See various the interactions between the DEA and WSP in Bundle C at pp. 1333-1334; 1335-1338; 1339; and 1340-1342 (between 24 July 2013 and 9 October 2013); and the amended application form submitted by EcoPartners to the DEA on 26 March 2014 (Bundle D (EIAR p. iii); Bundle B at pp. 1343-1396). See also the email from the DEA of 26 February 2015 in which it refers to the ‘in-process application’

(i) *notify the applicant that the report has been referred for specialist review in terms of section 24I of the Act; or*

(ii) *request the applicant to make such amendments to the report as the competent authority may require for acceptance of the environmental impact assessment report.*

(3) ...

(4) (a) *An environmental impact assessment report that is rejected in terms of subregulation (2)(b) may be amended and resubmitted by the EAP.*

(b) *On receipt of the amended report, the competent authority must reconsider the report in accordance with subregulation (2).'*

195. Regulation 67 of the 2010 EIA regulations provided that:

*'(1) An application in terms of these Regulations lapses if the applicant, after having submitted the application fails, for a period of six months, to comply with a requirement in terms of these Regulations.*

*(2) Subregulation (1) does not apply where reasons for failure have been communicated to the competent authority in writing and accepted by the competent authority.'*

196. It is clear that the regulations provided for several steps which had to be taken by the applicant, the EAP and the competent authority throughout the EIA process. Once the EIAR had finally been submitted, the competent authority had either to accept or reject it. If the EIAR was rejected, it could be amended

and resubmitted by the EAP (which had to be done if it was to be reconsidered). On receipt of the amended report, the competent authority had to reconsider the report in accordance with the regulations.

197. In the present case, Atha proceeded on the basis that the Environment Minister was the competent authority. The Environment Minister (and her officials with delegated authority) furthermore acted as the competent authority throughout the EIA process. The Environment Minister rejected the original EIAR on 16 May 2014, and continued to be treated as the competent authority for purposes of the subsequent public participation process on 16 September 2014 and 27 October 2014.
198. At some point after that however, the role of the Environment Minister and the DEA ended. The amended EIAR was never resubmitted to the DEA.
199. As pointed out in the statement of appeal<sup>166</sup>, there is no explanation for why the application was removed from the remit of the Environment Minister and submitted instead to the provincial department for decision. Atha provides no proper explanation in the responding statement despite having been invited to do so. It says that *'the YUCM Project, the EIA Application, was made to both the Minister and the MEC. However, the DEA delegated the decision-making mandate to the MEC based on their own judgement that the [EIAR] did not trigger any EIA Listed Activities to be decided by the Minister'*<sup>167</sup>.

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<sup>166</sup> Bundle A (statement of appeal) 39-40:65 and (answering statement) 341:47

<sup>167</sup> Bundle A (statement of appeal) 289-290

200. It is incorrect, as is implied by Atha, that the application was submitted simultaneously to both authorities. As is noted in paragraphs 190 and 191 above, there were two different applications, each submitted to a different authority at a different time. The initial application was made to the MEC. The new application was made to the Environment Minister on 20 June 2013. The latter was an integrated environmental authorisation and waste management licence application.
201. The initial application was never persisted with. This is apparent, for example, from the fact that there is no evidence of the MEC having acted as the competent authority in relation to a scoping report.
202. In relation to the second application, the further explanation that the DEA delegated a decision-making mandate to the MEC '*based on their own judgement that the [EIAR] did not trigger any EIA Listed Activities to be decided by the Minister*', is inconsistent with NEMA and the regulations. If, as Atha says, it was the MEC who was the correct competent authority because '*the [EIAR] did not trigger any EIA Listed Activities to be decided by the Minister*', then there can be no question of a valid delegation of authority by the Environment Minister.
203. If Atha changed its mind about which authority was the competent authority, it was required to have withdrawn its application and resubmitted it to the correct authority. It would have been required to do so at the outset of the EIA process.
204. In the present instance the EA was granted by the Chief Director despite the facts that:

- 204.1. The application was made to the Minister who was lawfully treated as, and who lawfully played the role of the competent authority throughout the EIA process;
  - 204.2. The Mpumalanga Environmental Department lawfully acted throughout the process as a commenting authority instead of a decision-making authority; and
  - 204.3. None of the requisite legislative or regulatory steps which would have been required to precede a decision by the MEC was ever taken.
205. These facts would, if the EA were to be confirmed on appeal, result in the decisions of the MEC on appeal being unlawful and reviewable on the following grounds:
- 205.1. The MEC would not have been authorised by NEMA to grant the EA (section 6(2)(a)(i) of PAJA);
  - 205.2. Mandatory and material procedures prescribed by NEMA and the 2010 EIA regulations would not have been complied with (section 6(2)(b) of PAJA); and
  - 205.3. The EA would have contravened NEMA and would not have been authorised by it (section 6(2)(f)(i) of PAJA).
206. Finally under this head, Atha failed to cause the EIAR to be amended and resubmitted within six months of the original EIAR having been rejected by the DEA on 16 May 2014. The application therefore lapsed on 16 November 2014

in terms of regulation 67 of the 2010 EIA regulations. The application had therefore lapsed by the time the Chief Director granted the EA.

207. While this is not a ground relied upon in the statement of appeal, it would give rise to a further ground of review if the EA were to be confirmed on appeal, and it is something which, it is submitted, ought to be considered by the Appeal Panel and in respect of which Atha ought to be allowed to comment.

**PART N: LISTED ACTIVITIES NOT AUTHORISED (first ground of appeal in statement of appeal)**

208. The EA does not authorise all of the activities which are triggered by the proposed project.

209. In particular, the following further activities, which should have been authorised for the project to proceed lawfully, were not authorised:

209.1. *‘The construction of facilities or infrastructure for the generation of electricity where the electricity output is more than 10 megawatts but less than 20 megawatts’* (activity 1(i) in Listing Notice 1 of 2010); and

209.2. *‘The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from a watercourse’* (activity 18(i) in Listing Notice 1 of 2010) – While this activity was authorised as far as the surface infrastructure is concerned, it was not authorised in relation to the underground workings of the mine.

**N.1 The generation of electricity where the electricity output is more than 10 megawatts but less than 20 megawatts**

210. In the application submitted to the DEA by EcoPartners on behalf of Atha, one of the activities in respect of which authorisation was sought was the one described in paragraph 209.1 above<sup>168</sup>. The description of the project activity which would trigger this listed activity was described as follows: *‘[t]he proposed mine will install generators and the combined electricity output will be more than 10 megawatts but less than 20 megawatts’*.
211. The EIAR says that *‘Based on the mining operation, surface layout and product handing information, Mindset calculated Total Power Demand to be approximately 10.3 MVA. It has been noted that power will be supplied by six onsite diesel fed generators which will have the capacity to generate approximately 12 MVA...’*<sup>169</sup>.
212. Since 12 MVA comprises 12MW, the generation of this amount of electricity by generators triggers activity 1(i) in Listing Notice 1 of 2010. The activity ought therefore to have been authorised in the EA<sup>170</sup>.
213. In answer, Atha says the following, *‘[t]his activity was removed due to the “best environmental option”. The requirement needed by the applicant is less than 10 MVA, this is therefore less than the listed activity. This is explained in the EIAR p109.’*

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<sup>168</sup> Bundle C p. 1350

<sup>169</sup> Bundle D (EAIR p. 89)

<sup>170</sup> Bundle A (statement of appeal) 35-36:48-52

214. Page 109 the EIAR however says only the following, '*[n]ote that with the Best Environmental Option (the new preferred alternative no Wash Plant will be required [sic], thus the power requirement would be less than 10 MVA*'.
215. This revised power requirement does not appear from any of the specialist reports attached to the EIAR. There is in other words no specialist study which assesses and reports on what the power requirements of the Best Environmental Option are likely to be.
216. What is more is that a Pre-Feasibility Study which was conducted by Mindset Mining Consultants to determine the power requirements of the earlier version of the project (which still included the discard pile) has also not been included among the annexures to the EIAR<sup>171</sup>. It is therefore impossible for the decision maker or the appellants to assess whether the statement as to the current power requirements is likely to be correct.
217. Of particular concern is whether the power requirements of the water treatment plant which is proposed as part of the Best Environmental Option<sup>172</sup> have been taken into account. It is clear from several parts of Atha's responding statement that the water treatment plant is envisaged for the construction phase as well as the post-closure phase<sup>173</sup>.

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<sup>171</sup> This Pre-Feasibility Study is referred to in an extract of that study dated 25 July 2014 which is Appendix C4 to the EIAR

<sup>172</sup> Bundle D (EIAR p. 812)

<sup>173</sup> See, for example, Bundle A (Atha's responding statement) p. 285

218. As noted in paragraph 35.11 of the statement of appeal dated 19 August 2016, the DEA on 16 May 2014 specifically required assurances about the power requirements of the project.
219. It is simply not possible for the competent authority to satisfy itself that the power requirements of the project as presently conceived will in fact be less than 10 MVA<sup>174</sup>.

**N.2 The dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from a watercourse**

220. The underground area of the mine coincides with large areas of wetland<sup>175</sup>.
221. A ‘*watercourse*’ is defined in Listing Notice 1 of 2013 as meaning, among other things, ‘*a wetland*’.
222. As noted above, the available scientific evidence is that the wetlands and springs are inextricable linked with their underground source of water (hence the risks posed by dewatering).
223. The underground workings of the mine will therefore involve the excavation, removal or moving of soil, sand, pebbles or rock from a watercourse.
224. The fact that underground mining will trigger this activity (even though it will take place underground) is confirmed in the water use licence which was granted to Atha on 7 July 2016 in terms of the Water Act.

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<sup>174</sup> Bundle A (answering statement) pp. 331-333:13-19

<sup>175</sup> Bundle B p. 705

225. One of the authorised water uses is ‘*impeding or diverting the flow of water in a watercourse*’<sup>176</sup>. Another is ‘*altering the bed, banks course or characteristics of a watercourse*’<sup>177</sup>. Both of these water uses are listed as being triggered by the ‘*[u]nderground mining activities and voids*’<sup>178</sup>. The watercourses which will be affected by the underground mining activities and voids, are described as being the ‘*Wetland systems 1 & 2; Seep wetlands S1, S2 & S4; channel valley bottom CVB1 & CVB2*’.
226. It is clear from this that Atha’s line of argument, which is that underground mining does not involve the excavation, removal or moving of soil, sand, pebbles or rock from a watercourse because it takes place underground, must be rejected.

### **N.3 Conclusion as regards this section**

227. The failure of the EA to authorise these activities amounts to material non-compliance with regulation 37(1)(b) of the NEMA 2010 Regulations.
228. More importantly it means that two critical activities which are triggered (or in the case of the electricity requirement, is likely to be triggered) by the proposed project have not been authorised. Atha would therefore be acting unlawfully if it were to commence with the project in these circumstances.

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<sup>176</sup> Section 21(c) of the Water Act (quoted in Bundle C p. 1398)

<sup>177</sup> Section 21(i) of the Water Act (quoted in Bundle C p. 1398A)

<sup>178</sup> Bundle C p. 1399

**CONCLUSION**

229. For the reasons given in these submissions read with the appellants' statement of appeal and answer, the appellants request that the appeal be upheld.

**AYMONE DU TOIT**  
Chambers  
Cape Town  
14 August 2017