

**IN THE WATER TRIBUNAL OF SOUTH AFRICA**

**HELD AT PRETORIA**

**Appeal No: WT04/22/GP**

In the matter between:

**THUNGELA OPERATIONS (PTY) LTD**

Appellant

and

**CHIEF DIRECTOR, WATER USE LICENSE MANAGEMENT:  
DEPARTMENT OF WATER AND SANITATION**

First Respondent

**DEPARTMENT OF WATER AND SANITATION**

Second Respondent

**DEPARTMENT OF WATER AND SANITATION  
REGIONAL OFFICE, GAUTENG**

Third Respondent

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**APPEAL DECISION**

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**Coram:** T. Murombo (Additional Member: Panel Chair)  
S. Kvalsvig (Additional Member)  
U. Mbeki (Additional Member)

**Heard:** 14-15 Nov 2022; 11-13 Jan 2023; 15-16 Feb 2023.

**Delivered:** 26 April 2023 (Delivered electronically)

**Appearances:**

For the appellant:  
Instructed by: Adv. L. Putter SC with S. Ogunronbi and Z. Matondo.  
Van der Merwe Berg Attorneys (B. van den Berg and  
S. Vorster)

For the respondents:  
Instructed by: Adv. D. Mtsweni, with N. Rasalanavho.  
A. Moodley, The State Attorney (Pretoria) M. Sepoloane  
(DWS Legal Services)

## **Introduction and background**

1. The appellant is Thungela Operations (Pty) Limited (Thungela), formerly known as Anglo Operations (Pty) Limited. The first respondent is the Chief Director, Water Use Licence Management in the Department of Water and Sanitation (DWS). The second respondent is the Department of Water and Sanitation itself. itself and the Third Respondent is the Gauteng Regional Office of the Department.<sup>1</sup> The Chief Director, Water Use Licence Management is the delegated authority who made the decision to refuse the Water Use Licence which is the subject of this appeal.
2. The appellant applied for a water use licence (WUL) in terms of section 40 of the National Water Act, 36 of 1998 (the NWA) in July 2018 and the respondents declined the application on the 12<sup>th</sup> of April 2022. The WUL was in support of a proposed coal mining project called the Palmietkuilen Mining Operation (the project). The applicant for the project was originally Anglo Operations Limited (Anglo) due to Anglo being the Prospecting Right holder for coal. Pandospan concluded a contract with Anglo in support for the acquisition of the prospecting right, Department of Mineral Resources (DMRE) Ref: GP 30/5/1/1/2 (201/10026) PR. Pandospan (Pty) Ltd (Pandospan) forms part of the Canyon Group of companies for which Canyon Coal (Pty) Ltd (Canyon) functions as the operational division. The environmental and other authorisations for the Palmietkuilen project were managed by Pandospan on behalf of Anglo, the project applicant. For all intends and purposes we shall refer to the appellant collectively as

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<sup>1</sup> The Notice of Appeal filed by the Appellant referred to a Fourth Appellant comprising “Several Objectors to the Palmietkuilen Mining Project” but this Appellant did not file any papers or lead any evidence.

Thungela who have assumed the rights and obligations of Anglo with respect to the project.<sup>2</sup>

3. The Mining Right area is approximately 3 422 ha, and of this approximately 1 250 hectares is the total infrastructure area (project area), the open cast will be approximately 877 hectares. The current resource is estimated at 125.98 Mt. The life of mine for the Palmietkuilen project is 53 years including a two-year ramp-up period. Once the mine has been established a full production rate of 200 000 tonnes (t) per month will be maintained for 51 years.
4. The mine is located approximately 12 km east of Springs, within the Sedibeng District Municipality in the quaternary catchment C21 E in Upper Vaal Secondary Drainage Region. The northern project boundary lies on the Mpumalanga and Gauteng provincial boundary and the western boundary also lies on the Ekurhuleni District Municipality and Sedibeng District Municipality. The site is on the border of Gauteng and Mpumalanga provinces, in the Sedibeng District Municipality and the Lesedi Local Municipality. The project borders the Ekurhuleni Metropolitan Municipality (Gauteng) and the Nkangala District Municipality and the Victor Khanye Local Municipality (Mpumalanga). Several tributaries of the Blesbokspruit run through the project area and one of these tributaries includes the Dwars-in-die-wegvlei , Verdrietlaagte stream and Aston Lake. The project area is interspersed with streams, wetlands and pans. The R29 road runs through the Largo settlement and the southwestern part of the project area. The N12 and N17 national routes are situated approximately 6.8 km north and 260m south of project area respectively. The R42 regional road is situated approximately 1.1

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<sup>2</sup> Record page 2679-2683.

km east, the R51 is situated approximately 6.5 km west and the R555 is situated approximately 3.8 km north of the project area.<sup>3</sup>

5. The relevant mining right for the project was granted in terms of section 23(1) of the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (the MPRDA) over portions 1, 2, 4, 9, 13 and 19 of the farm Palmietkuilen 241. However, if approved, mining will only take place on portions 2 and 19. This refers to the open pit and associated infrastructure.

The project will include the following developments:

- a) open pit mining;
- b) processing plant and fuel storage;
- c) haul roads from pit to plant and from plant to mine access points, and various conveyor belts;
- d) overburdened dumps and ROM stockpile area;
- e) discard disposal facility (slurry dam and discard dump);
- f) Pollution Control Dam (PCD),
- g) storm-water trenches and sewage management systems; and
- h) site offices and security offices.<sup>4</sup>

Implementing this project and its associated infrastructure triggers several water uses as defined in the NWA.

6. Therefore, in addition to any other permits, authorisations or licences secured by the appellant required a WUL in respect of those water uses. In particular, the appellant applied for a WUL to authorise the following uses:

- a) section 21(a) – taking water from a water resource;
- b) section 21(c) – impeding or diverting the flow of water in a water course;
- c) section 21(f) – discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;

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<sup>3</sup> Record page 2679-2683.

<sup>4</sup> Record page 2679.

- d) section 21(g) – disposing of waste in a manner which may detrimentally impact on a water resource;
- e) section 21(i) – altering the bed, banks, course or characteristics of a water course; and
- f) section 21(j) – removing, discharging or disposing of water found underground.<sup>5</sup>

7. In support of its application, the appellant originally submitted several routine forms and specialist reports. In addition to the original documents, we also received further specialist reports and pleadings submitted by the parties. All these records were supplemented by oral evidence led during the hearing of the appeal. The appellant called six witnesses: the COO of Canyon Coal, a geohydrologist, a geohydrologist, a geochemical specialist; a civil engineer; an environment assessment practitioner, and a community representative in the form of a former municipal councillor and leader of the community forum. The respondents, for their part, called two officers from the Regional Office of the second respondent, who are qualified experts in their own right, and who were responsible for assessing the water use licence application and making recommendations to the decision-maker. They testified in their professional capacity and appointment but nonetheless are experts in their fields.

8. By the end of the appeal hearing, we had considered the following technical documents and reports:

- i. Hydro pedological Assessment as part of the Environmental Assessment and Authorisation Process for the Proposed Palmietkuilen Mine, Springs, Gauteng Province, prepared by Scientific Aquatic Services (SAS) for Canyon Coal dated October 2017.
- ii. Integrated Water and Waste Management Plan for the proposed Canyon Resources (Pty) Ltd Palmietkuilen Mining Project near Springs, Gauteng

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<sup>5</sup> Record page 2694.

- Province, Project Number CNC4065, by Digby Wells Environmental for Canyon Coal (Pty) Ltd dated July 2018.
- iii. Environmental Risk Report , Integrated Environmental Impact Assessment for the Proposed Palmietkuilen Mining Project near Springs, Gauteng, by Digby Wells Environmental for Canyon Coal (Pty) Ltd April 2018.
  - iv. Wetland Assessment Report, prepared by Digby Wells Environmental for Canyon Coal (Pty) Ltd, dated November 2016 Updated April 2018.
  - v. Groundwater Report, Environmental Impact Assessment for the Proposed Palmietkuilen Mining Project, by Digby Wells Environmental for Canyon Coal (Pty) Ltd March 2017.
  - vi. Flora and Fauna Impact Assessment Report for Proposed Development of Palmietkuilen Open Pit Coal Mine and Associated Infrastructure, near Springs, Gauteng Province, , by Digby Wells Environmental for Canyon Coal (Pty) Ltd November 2016
  - vii. Social Impact Assessment Report , Environmental Impact Assessment for the proposed Palmietkuilen Mining Project, near Springs, Gauteng, by Digby Wells Environmental for Canyon Coal (Pty) Ltd December 2016
  - viii. Economic Impact Study, for proposed Palmietkuilen Mining Project near Springs, by Urban-Econ Development Economists, for Digby Wells Environmental (Pty) Ltd on behalf of Canyon Coal (Pty) Ltd as part of the Environmental Impact Assessment (EIA) process, dated February 2017.
  - ix. Integrated Environmental Impact Assessment for the Proposed Palmietkuilen Mining Project near Springs, Gauteng Rehabilitation, Decommissioning and Mine Closure Plan, November 2016.
  - x. Aquatic Ecology Assessment, Aquatic Ecology Specialist Report, by Digby Wells Environmental dated November 2016.
  - xi. Final Environmental Impact Assessment and Environmental Management Plan for Listed Activities Associated with the Canyon Resources (Pty) Ltd, Proposed Palmietkuilen Mining Project near Springs, Gauteng DMR Reference Number: GP 30/5/1/2/2(10047)MR, for Digby Wells Environmental (Pty) Ltd on behalf of Canyon Coal (Pty) Ltd, February 2017.
  - xii. Preliminary Environmental Geochemical Assessment of the Future Palmietkuilen Colliery, Report Number: 1612001, prepared for Canyon Coal (Pty) Ltd, by Geostratum Groundwater and Geochemistry Consult (Pty) Ltd dated March 2017.

- xiii. Integrated Environmental Impact Assessment for the Proposed Palmietkuilen Coal Mine near Springs, Gauteng, Public Participation Report, Project Number CNC4065, by Digby Wells Environmental dated May 2017.
- xiv. Surface Water Assessments Report, for Proposed Open Cast Coal Mine on Portions Farm Palmietkuilen 241 IR, near Springs in the Gauteng Province, by Digby Wells Environmental dated April 2018.
- xv. Acid Mine Drainage Management Plan for WULA Purposes, by GFK Consulting Engineers cc, for Canyon Coal (Pty) Ltd February 2019.
- xvi. Integrated Environmental Authorisation, issued by the Department of Mineral Resources March 2019.
- xvii. Preliminary Design Report for WULA Purposes Without Filter Press and Small Footprint Area, by B Muhl for Canyon Coal (Pty) Ltd, dated 03 June 2019.
- xviii. Hydrogeological Assessment Final Report, Palmietkuilen Mining Project Report no. PRJ20-019, Pandospan (Pty) Ltd, by Tobias Loubser (Pr. Sci. Nat.), Dated November 2020.
- xix. Hydrogeological Assessment - Supplementary Memo, Palmietkuilen Mining Project, by Pandospan (Pty) Ltd, by Tobias Loubser (Pr. Sci. Nat.), LWRC dated December 2022.
- xx. Record of Recommendation (ROR) and related internal comments July 2022.
- xxi. Civil Designs and Acid Mine Drainage and various presentations made by the appellant in January and February 2023.
- xxii. All pleadings filed by the parties including closing submissions.

9. The above technical documents and reports were considered, assessed, and evaluated in the context of the section 24 and 27 of the Constitution of South Africa, 1996, the National Environmental Management Act 107 of 1998 (the NEMA), the NWA, the National Water Resources Strategy II (2013)<sup>6</sup> and other relevant laws and policies.

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<sup>6</sup> Section 7 of the NWA requires us to give effect to the NWRS when making decisions.

10. Once seized with the WULA, the respondents considered the application and ultimately declined decided not to grant the licence. The letter of decline dated 12 April 2022, states that the WULA was declined for the following reasons:

1. The backfilling method and possible impacts are not sufficiently covered in the documents submitted. The following were not addressed:
  - i. A geochemical assessment of the in-situ overburden and waste material to determine the suitability/applicability of material for backfilling purposes.
  - ii. Geochemical modelling to investigate and demonstrate potential long-term impacts of the backfilling material on the groundwater resources.
  - iii. The discarded dump materials indicate high pyrite content leading to high load of sulphides concentration up to 10 000 mg/L but Geochem report, reported material to be put in discard dump range between 4 500mg/l to 6000 mg/l of sulphate concentration with high pH for the runoff water between 2 and 4.5. Mitigation measures to manage the impacts associated with the runoff and seepage are not clearly outlined. This may pose a significant risk to the water users, water resources and the environment.
  - iv. The decant classification was not done, the estimated positions and period of the expected decanting does not make sense due to the geology of the area, e.g., 1km to 50 years travel distance of the plume.
  - v. Although the applicant did apply for GN704 Exemptions for Regulation 4 (a), (b) and (c), no specific details, such as exact distance from the pans, materials to be used, alternative options and mitigation measures have been specified for the three (3) activities. Therefore, the impact of granting these exemptions on the water resources cannot be quantified.
  
2. The applicant has completely failed to provide required geohydrological related information regarding the pit area. The latter was confirmed on page 10 bullets 3 and 4 under item 3 (study methodology) of the hydrogeological report.
  - i. It focused mainly on the edges / Life of Mine area boundaries than pit area as per information requirement.
  - ii. the newly drilled borehole (PBH01) in the pit area as reflected in Tables 3.4.a and 3.5.a of the report was only slug tested, without supporting test pumping records /sheets required for verifications.
  - iii. topographical elevations of borehole (PBH01) are reported inconsistently both in Tables 3.4.a and 4.2.c (i.e 1618 and 1611.98 meters above mean sea level). The elevation level difference of about 7meters noted on borehole (PBH01) could not be referred to or cited to be borehole collar.
  - iv. part of a dedicated groundwater monitoring boreholes (PBH01, PBH02, PBH03, PBH03 and HCBH01 (with depth of 40 meters below ground) as presented on Table 3.4a of the report is not accepted for the purpose



of groundwater quality monitoring in the mine pit areas deeper than 40 meters below ground.

v. potential decant elevation was estimated at approximately 1 588 meters above mean sea level (mamsl) with the high-risk area situated on the lower lying northwestern perimeter of the proposed pit, including the Aston Lake. Depending on the effective pit infiltration, the expected decant volumes for the backfilled opencast initially starts at 25 cubic meters per day increasing to 570 cubic meters per day. To date the applicant has failed to present a detailed plan that will counter against potential pollution plume especially from the pit area, during and post mining duration.

3. The status of the geohydrological regime, the extent of contamination, preferential pathways and predictions regarding long-term migration are just described without being backed by any data collection sheets or records.

4. The public is not in support of the project as it will have negative impact on the water resource.<sup>7</sup>

11. Unimpressed by the decision and its accompanying reasons, the appellant lodged a notice of appeal and detailed ground of appeal.<sup>8</sup> In particular, the appellant requested the Tribunal to overturn the respondents' decision based on the following three broad grounds of appeal:

11.1. That the decision by the respondents on the backfilling method and geochemical aspect was irrational, unscientific, speculative, deceitful, incomprehensible and not informed by the documents and experts reports before the respondents. The appellant submit that the respondents failed to consider the WULA and its supporting expert reports thereby reaching the wrong conclusions about those reports.<sup>9</sup>

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<sup>7</sup> Record of Appeal p517-518.

<sup>8</sup> Pleadings Record page 1-48.

<sup>9</sup> Pleadings Record page 40-41.

11.2. That the decision by the respondents regarding the geohydrological impacts<sup>10</sup> of the proposed mine, the level and quality of possible decant and future water contamination was unscientific, speculative, incomprehensible and not informed by the documents and experts reports before the respondents.<sup>11</sup> The appellant submitted that the respondents failed to consider the geohydrological reports before it or having considered them failed to properly understand the report and reached the wrong conclusions on the geochemical impacts and related mitigation measures.

11.3. Additionally, that the respondents failed to give the appellant an opportunity to make representations and explain any unclear geohydrological and geochemical aspects of the WULA.

11.4. That there is no foundation in the claim by the respondents that the public was, and is, not in support of the project.

12. Overall, the appellant submitted that taking in totality the expert reports they submitted as amplified by expert evidence led at the hearing should inform a decision to grant the WUL subject to appropriate conditions.

### **Jurisdiction and remit of the Tribunal: Legal framework**

13. The parties spent a considerable amount of time and ink on the nature of the proceedings before the Tribunal, its jurisdiction, and remit. Fortunately, these are matters on which the

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<sup>10</sup> The appellant was criticised in respect of –“ the decant position post-mining, the appellant’s so-called failure to present a detailed plan that will counter potential pollution plume during and post mining. The geohydrological regime, the extent of contamination prevential pathways and predictions regarding long-term migration without being supported by any “data, collection sheets or records.”

<sup>11</sup> Pleadings Record page 41.

courts<sup>12</sup> and the Tribunal itself<sup>13</sup> have previously pronounced, and we will therefore not belabour the point. Suffice to restate that the Tribunal is established in terms of section 146 of the NWA to hear appeals concerning matters listed in section 148(1)(a) to (m). Section 148 (5) of the NWA empowers the Chairperson of the Tribunal to make Rules and such rules were promulgated in 2005. In terms of Rule 7, hearings before the Tribunal take the form of “rehearing” or a hearing *de novo*. The Rule further provides that an appellant should be given an opportunity to presents its case by written or oral evidence after which any other interested party should get an opportunity to equally present their case.

14. The reference to “rehearing” has been interpreted by the courts as implying that the Tribunal steps into the shoes of the respondents and hears the water use licence application (WULA) afresh with wide appeal powers.<sup>14</sup> As the court stated in *Makhanya*;

The Tribunal effectively had to rehear the application for the water licence. It is well recognised that an application of that nature will ordinarily qualify as an administrative action since the advent of the Constitution. Administrative appeal, usually allow for the reconsideration of an administrative decision by a higher authority. Indeed, Hoexter, writing in general, says the person or body to whom the appeal is made steps into the shoes of the original decision-maker, as it were and decides.<sup>15</sup>

We have however further clarified that the decision appealed against does not become irrelevant but is the starting point of the rehearing process.<sup>16</sup>

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<sup>12</sup> *Makhanya NO and another v Goede Wellington Boerdery (Pty) Ltd* [2013] 1 All SA 526 (SCA).

<sup>13</sup> *Oosgrens Landgoed (Pty) Limited v Director-General of the Department of Water and Sanitation and others* (WT05/10/2010) [2017] ZAWT 6 (1 January 2017), para 52-62; *Endangered Wildlife Trust and Others v Director-General, Department of Water and Sanitation and Another* (WT 03/17/MP) [2019] ZAWT 3 (22 May 2019) para 49-50.

<sup>14</sup> Wide appeal powers as explained in *Makhanya NO and another v Goede Wellington Boerdery (Pty) Ltd* [2013] 1 All SA 526 (SCA) para 27, *Tikly v Johannes NO* 1963 (2) SA 588 (T), Hoexter. C, *Administrative Law in South Africa* (2012) 69, Baxter. L, *Administrative Law* (Juta, 1984) pp 262 – 263 as cited by appellant in the Appellant’s Closing Submission, page 67 Heads.

<sup>15</sup> *Makhanya (ibid)* para 27

<sup>16</sup> *Endangered Wildlife Trust and others v Director-General, Department of Water and Sanitation and another* (WT 03/17/MP) [2019] ZAWT 3 (22 May 2019) para 49-50.

15. In this sense the Tribunal considers the decision appealed against, the record before the responsible authority, its reasons for decision, any new evidence and reports submitted by the parties or led by way of oral evidence and then makes a fresh decision on the WULA. This implies that the Tribunal is not limited in its consideration of an appeal to the decision appealed against or the grounds of appeal raised by the appellant.<sup>17</sup> The Tribunal has a mandate to consider the WULA as if it is a fresh application in the context of the previous decisions and requirements of the law.
16. To be specific in the present matter we are not limited to the three issues raised namely the geohydrological impacts, geochemical impacts and socio-economic impacts.<sup>18</sup> In our consideration of the appeal, and the whole WULA *de novo*, we are guided by sections 2, 3, 4, 7, 11, 15, 18, 27, and 41 of the NWA. Collectively, these provisions command us to consider the objects of the NWA, the duties of organs of state as trustees of water resources, the national water resources strategy, any classification of water resources, relevant water management strategies of catchment and water management areas, any reserve determination, water resource quality objectives, pollution prevention and any other relevant factors.
17. Section 27(1) encapsulates this mandate of the Tribunal, but the factors listed there are not a *numerus clausus* and courts have elaborated on the scope of this mandate and how the decision-maker should weigh factors enumerated to guide decision-making.<sup>19</sup>

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<sup>17</sup> Appellant's Closing Submissions page 11.

<sup>18</sup> Pleadings record page 39.

<sup>19</sup> *Makhanya NO and another v Goede Wellington Boerdery (Pty) Ltd* [2013] 1 All SA 526 (SCA) para 33, *Atholl Developments (Pty) Ltd v Valuation Appeal Board for the City of Johannesburg and another* 2014 (5) SA 485 (GJ) para 43, *South African Broadcasting Corporation v Transvaal Townships Board and others* 1953 (4) SA 169 (T) 176 D-G, Lawrence Baxter, *Administrative Law* (Juta, 1984) p255.

18. All the provisions of the NWA referred to above and our decision must be made in the context of section 2 (4) of the National Environmental Management Act (1998),<sup>20</sup> section 24 and 27 of the Constitution of South Africa. In addition, we are mindful that this decision constitutes administrative action in terms of the Promotion of Administrative Justice Act No. Act 3 of 2000 (PAJA) and must meet the threshold of fair and rational decision-making provided therein. We proceed to deal with the specific areas of disagreement between the parties, parties' submission on those issues, the relevant section 27(1) applicable factors, and relevant principles of environmental management in the NEMA.

#### **The issues for determination**

19. The broad issue for determination in this appeal is whether the appellant is entitled to a WUL based a consideration of the WULA and its supporting documents as amplified by evidence and further reports submitted during the appeal hearing.

20. To reach a decision on whether to issue a WUL to the appellant we will also consider whether the respondents erred in arriving at a negative decision given the information, reports, and representations made by the appellant. This issue requires us to consider the parties' submission on the three main contentious aspects of the WULA and other factors that are relevant based on the facts of the application and section 27(1) of the NWA.

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<sup>20</sup> The NWA is a 'specific environmental management Act' whose administration, interpretation and application must be guided by the principles in section 2 of the NEMA.

## **Geohydrological impacts**

21. It is not in dispute that existing mining activities have had, and the proposed Palmietkuilen Mining Project near Springs, Gauteng will have serious impacts on the environment as broadly defined in section 1 of the NEMA. Such impacts range from biophysical, social, economic, cultural and aesthetic impacts. The parties in this appeal agree that the proposed project will have certain effects on the environment. Some of the effects are potentially positive such as socio-economic development and upliftment of the locality and nationally a contribution to the South African economy.<sup>21</sup> Yet the extraction of this social and economic value leaves behind it a trail of environmental destruction ranging from changed landscapes, land and water pollution, disturbance of ecosystems and disruption of current land use activities. Some impacts are irreversible while others may be managed through the development of appropriate mitigation measures from conception, construction, operation and post-mining.
  
22. The appellant led several expert witnesses to confirm the methods, findings and recommendations in the Digby Wells Groundwater Report (2017) and the Pandostan Hydrogeological Assessment (2020). To clarify, the initial report prepared by Digby Wells in 2017 was considered by the respondents and comments were made requiring the appellant to do further studies to ensure better accuracy of data. It is critical to note that the respondent did not come up with these gaps but rather identified them as recommended

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<sup>21</sup> Record page 2635.

by Digby Wells, appellant's own consultants.<sup>22</sup> The respondents, acting upon what Digby Wells identified as "assumptions and limitations",<sup>23</sup> then asked the appellant to address the information gaps and uncertainties from the borehole data and tests. Appellant was requested to drill the additional boreholes to the northern section and inside the open pit area,<sup>24</sup> accompanied by pump tests (as opposed to sludge tests). Additional boreholes were also required in the east and western side of the open pit footprint.

23. These additional studies and tests were required to create a greater degree of certainty regarding the aquifer parameters that would then inform the calculations of the numerical groundwater flow and transport model.<sup>25</sup> This model would be used to predict impacts on groundwater and to design appropriate mitigation measures. The respondents doubted the accuracy of the groundwater inflow rates into the opencast pit area.<sup>26</sup> Faced with this feedback on the Digby Wells 2017 report, the appellant appointed Loubser Water Resources Consult (Pty) Ltd (LWRC) to undertake the further studies in 2020. At no point did the appellant contest the observations, comments and directions by the respondent's

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<sup>22</sup> Record page 324 ("The following assumptions and limitations are associated with the groundwater impact assessment: No boreholes were found during the hydrocensus in the northern section of the project area. As a result, there is information gap in terms of the current groundwater usage, baseline water quality and water levels; There are uncertainties associated with the hydraulic conductivity at the pit area. This was brought about by the obstacles encountered that did not allow for aquifer tests to be conducted at the boreholes located at the pit area (BH5 and BH5A, Section 4.4); Private boreholes located within the mining right boundary are not regarded as potential receptors as it is assumed that the mine will then own them as soon as it acquired the mining right; and The model accuracy is expected to be around 60% and this needs to be taken into consideration when assessing the model results."), see Transcript page 133-135.

<sup>23</sup> Record page 324.

<sup>24</sup> Although additional boreholes were subsequently drilled the respondent's experts disputed the accuracy of the triangulation and coordinates making any data from these boreholes unreliable, see Transcript p657-661.

<sup>25</sup> Record page 348 defines a "numerical model,... is a simplified, but representative description of the groundwater system that illustrates the interaction of the sources, pathways and receptors at the site." *Sources* are further defined as "the natural and artificial recharge, temporary discard dumps and mine workings that contributes to the groundwater quantity and/or quality;" *Pathways* as "the aquifers through which the groundwater and contaminants migrate;" *Receptors* as "humans, rivers or natural ecosystems that depend on the groundwater and will be impacted negatively if the water is depleted by dewatering or is contaminated.", see Transcript page 794.

<sup>26</sup> Transcript page 555, 609, 794.

geohydrology internal experts because they conceded that there were data gaps.<sup>27</sup> Rather they simply proceeded to commission LWRC to execute the task.<sup>28</sup>

24. The LWRC reports of 2020 and 2022 did not come up with any findings significantly different from the Digby Wells report of 2017.<sup>29</sup> For example, the Digby Wells reports indicated groundwater inflow rates ranging from 400m<sup>3</sup>/day to a maximum of 1800m<sup>3</sup>/day during the operational phase, while LWRC indicated 900 m<sup>3</sup>/day to 2 000m<sup>3</sup>/day to end of life of the mine. The time to decant of the inflowing water ranged from 35 to 50 years based on both reports.<sup>30</sup> The effects of mining the coal seams through opencast is initially to dewater the mined area lowering the water table, thereby reducing water quantity and creating what is called a cone of depression. This would impact groundwater users and the functioning of some wetlands in the area. Once mining is completed the backfilled pit would start to recharge and water levels would rise with contaminated water.

25. The extent of water contamination would depend on various factors including the geochemistry of the material used and its interactions with water. Streams and wetlands around would be affected as they are fed from groundwater.<sup>31</sup> Over time during and post-mining, water would fill the backfilled open pit and come to the surface (decanting) causing potential water pollution. Digby Wells correctly reported that;

The proposed opencast mine has the potential to impact the groundwater environment negatively through the depletion of the groundwater resource and possible release of undesired contamination plumes. The groundwater quality at most of the coal mines in

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<sup>27</sup> Record page 1214, LWRC acknowledge shortcomings in the Digby Wells report, see Transcript page 50.

<sup>28</sup> Contrary to what LWRC state as the motivation for their study: “The main objective of the hydrogeological assessment (LWRC, 2020) is to address the following comments that were issued by the Department of Water and Sanitation (DWS) on the 2017 Groundwater Report compiled by Digby Wells for the proposed project.” Record page 1203.

<sup>29</sup> Record page 3967-3968, 3969 (last paragraph).

<sup>30</sup> Record page 1310.

<sup>31</sup> Record page 351-353.



the country is characterised by sulphate concentrations in the order of 2,500 mg/L. Similar impacts could also occur at the project site and management plans should be put in place to deal with these potential impacts.

Potential impacts are assessed in this section considering the construction, operation and closure phases.<sup>32</sup>

26. To manage these impacts, especially the post-mining decant, in an environmentally sound manner the appellant had to project inflow quantities, decant volume and quantity, and model the groundwater movement within the earth (conductivity),<sup>33</sup> the quality of the decant – which depends on the type of material used for backfilling and any mitigation measures to address and avoid potential AMD. The latter aspects become a geochemical issue which we address in the next section. For now, we deal with the purely geohydrological issues and evaluate the submissions by the parties thereon.
27. The significance of the geohydrological impacts discussed above were rated to be negligible to moderate during construction and operational phases of the project.<sup>34</sup> This is so as during these phases the appellant would be monitoring, dewatering, treating, and managing the impacts much more effectively than during the post-closure phase.
28. With regards to the decommissioning and post-closure phase the appellant's experts indicated that there is likely to be groundwater contamination and mine decant which eventually will start to migrate to the surrounding environment about 35 years after closure.<sup>35</sup> The decant is expected to be of a poor quality which thus require continuous management post-closure.<sup>36</sup> Prior to mitigation it is reported that the decant will have “a

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<sup>32</sup> Record page 362.

<sup>33</sup> Hydraulic conductivity is defined as : This is the volume of water that will move through a porous medium in unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow. It is normally expressed in metres per day (m/d).

<sup>34</sup> Record page 368-371.

<sup>35</sup> Record page 1310, 1580.

<sup>36</sup> Record page 375, section 27 (1) (f) NWA.

significant impact and require effective management and rehabilitation measures to prevent irreplaceable impacts.”<sup>37</sup> If effective mitigation measures are applied the significance of this impact will be reduced to negligible levels. It is in this regard that mitigation measures are decisive in disposing of this, and other technical aspects of the appeal. The main findings of the Digby Wells report show extensive negative impacts on water resources throughout all the phases of the project.<sup>38</sup>

29. Having identified various potential geohydrological impacts Digby Wells recommended certain measures to mitigate these impacts. The mitigation measures are premised on the accuracy and integrity of the data used in the groundwater numerical modelling. For example, the use of pollution control dams (PCD) with specified liners and construction specifications was recommended. It was also recommended that contaminated water be contained within the mine water system.<sup>39</sup>
30. The main findings of the LWRC 2020 report which sought to address the concerns raised in the Digby Wells report and acted upon by the respondents concluded, among others, that a post-closure monitoring programme should be developed.<sup>40</sup> However, this report states, under post-closure “[i]mpact of mine polluting groundwater and surface water”, that “[n]o mitigation is recommended”.<sup>41</sup> This is despite observing that,

Contaminants from the mine can seep through the unsaturated zone into the groundwater system. Lateral groundwater movement will allow the spread of the contamination within the groundwater system. If this groundwater feeds surface water bodies such as streams and wetlands, these can also then be contaminated. *Dilution is expected to occur; therefore the impacts thereof are limited.*

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<sup>37</sup> Record page 3308.

<sup>38</sup> Record page 300, see also 1306-1312.

<sup>39</sup> Record page 368-371.

<sup>40</sup> Record page 1322.

<sup>41</sup> Record page 1311.

This goes against the well-established principle that dilution is not a solution to pollution.

31. The appellant called a geohydrologist expert and a geochemical expert who testified to the findings in the Digby Wells (2017). They were involved in preparing the LWRC 2020 and 2022 reports. The evidence of these experts was more confirmatory than anything as the appellant intended to demonstrate that, in addition to the Digby Wells specialists who conducted the studies and compiled the reports, other independent experts also agree with the methods, findings and recommendations of the authors of the original reports. What remains unexplained is why the appellant simply did not call the Digby Wells specialists who conducted the initial studies to come and attest to their findings and the extent to which they are scientifically defensible.<sup>42</sup> For example, appellant's geohydrology expert testified that ground tested hydraulic activities were "more sluggish than those simulated in the numerical model."<sup>43</sup>
  
32. The respondents approached the geohydrological issues and reports from the point of view of minimizing harm to water resources and the environment. Contrary to the expectation of the appellant, the respondent did not submit any independent reports to controvert its reports. This is so because the task of the respondents as the decision-makers is not to engage in a scientific contest with an applicant for a WUL. The respondents and their internal experts are there to consider, assess, and evaluate the appellant's application and its supporting reports and thereafter decide whether to recommend the granting of a licence. The respondents' experts are also qualified in their fields, registered scientists and therefore can assess the appellant's application to recommend a decision. It would be

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<sup>42</sup> Transcript page 110-111 and 189-190.

<sup>43</sup> Transcript page 128.

different where an interested party, say civil society activist is an objector. These actors could be expected to bring controverting scientific reports and evidence.

33. Upon considering the geohydrological reports submitted by the appellant, the respondents concluded that the appellant had failed to provide necessary geohydrological information regarding the open cast pit area where actual mining will take place.<sup>44</sup> This is also the area where impacts will be felt most post-closure. The respondents observed that most of the information used to compile the specialist's groundwater reports was obtained from boreholes and samples taken on the periphery of the opencast mining area, an observation corroborated by appellant's first geohydrology experts, Digby Wells.<sup>45</sup>
34. The respondents' internal experts explained that their rejection reasons were based on an evaluation of the reports submitted by the appellant. The first witness for the respondents, Mr Shibambo, a geohydrologist, testified that he had considered the appellant's WULA. He found that only one of the two boreholes successfully drilled in the open pit area was pump tested.<sup>46</sup> The respondents contest this version by LWRC that two boreholes were drilled.<sup>47</sup> The other borehole was only slug tested instead of pump tested which, according to Mr Shibambo, compromised the utility of the data from such a test for purposes of the groundwater flow transport modelling based on which appellant reached its conclusions about the geohydrological impacts of the proposed mining and the relevant mitigation measures.<sup>48</sup>

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<sup>44</sup> Transcript 796-798.

<sup>45</sup> Transcript page 555.

<sup>46</sup> Record page 518.

<sup>47</sup> PBH01 and HCBH01 (was 40m above the coal seams which lie 60m underground.)

<sup>48</sup> Transcript page 555.

35. Mr Shibambo further testified that the appellant's calculations of hydraulic conductivity and groundwater flow were inaccurate given the lack of sufficient tests from the pit area. He proceeded to demonstrate that the forecast of the decant area was incorrect based on the groundwater flow model by Digby Wells.<sup>49</sup> Furthermore, he explained that without sufficient boreholes inside the opencast pit area that are pump tested, it is impractical to assess potential impacts on water and to design effective mitigation measures. For example, the proposed PCDs and slurry dams as well as the post-closure passive water treatment are all potentially inadequate as their capacity, technical specifications, and design are based on the numerical model whose inputs are based on incomplete data from boreholes on the periphery of the opencast pit area.<sup>50</sup>
36. The witness further opined that the LWRC (2020) report did not come to any different conclusions because it was still based on boreholes drilled outside the opencast pit area. Therefore, as far as he was concerned, while the potential impacts on groundwater have been identified, the mitigation measures proposed are insufficient and cannot be properly evaluated due to the information and data gaps. Appellant and its experts think and testified otherwise.<sup>51</sup> The appellant's specialist confirmed that there will be decant 35 years post mining. The Digby Wells report highlighted the threat of acid mine drainage (AMD).<sup>52</sup> The respondents' witness insisted that "To date the applicant has failed to present a detailed plan that will counter against potential pollution plume especially from the pit area, during and post mining duration."<sup>53</sup> These include measures to mitigate the

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<sup>49</sup> While appellant's geohydrologist disagreed with this, he conceded that there were some inaccuracies in the data and modelling, see Transcript page 128.

<sup>50</sup> Transcript page 609-610, See Record page 2336 (design and capacity of PCDs). The PCDs are designed to meet the requirements of the GN 704 which states that a PCD is not allowed to spill more than once in 50 years instead of according to the specialist studies and groundwater and decant modelling done by the specialists.

<sup>51</sup> Transcript page 186-187.

<sup>52</sup> Record page 3303 and 3306.

<sup>53</sup> Record page 518, Transcript page 866-867, Record page 1320, LWRC predicts pollution plume to spread wide.

movement of the pollution plume to sensitive environments like Lake Aston, Marievale Nature Reserve and Bird Sanctuary less than a 1 km from the project, the Blesbokspruit Ramsar site.<sup>54</sup>

37. The respondent's witnesses overall testified that the geohydrological impacts are underestimated due to insufficient data, that the proposed mitigation measures are inadequate, and the appellant is insisting on less effective mitigation measures, in an area that is already not meeting water quality standards due to existing mines.<sup>55</sup> The aspect of cumulative impacts is dealt with further below.

38. Apart from all the studies and the evidence before us, we note that the appellant did not factor in future climatic variations and their possible impact on groundwater levels, infiltration, ingress and consequently the mitigation measures required.<sup>56</sup> This is a fatal flaw as even the environmental authorisation paid little regard to the impacts of climate change on the predicted water related impacts and proposed mitigation measures. The SAS Report acknowledges that,

The effects climate change dynamics were not considered as part this assessment; [*sic*] however, it is acknowledged that *this might exacerbate the anticipated reduction in water inputs and the resultant hydrological function of the remaining wetlands* beyond the extent of the proposed open pit.<sup>57</sup>

Despite this acknowledgement no further studies were done during the EIA process or the WULA process. The lack of information and data on these climate variation dynamics aggravates the data gaps with implications for the confidence level of the groundwater

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<sup>54</sup> Record page 752- details the protected environmental sites in the vicinity of the project; Transcript page 798-799. While the capital cost of a passive treatment is less than an active treatment system (Record page 2351-2353, the latter is more costly to operate in the long-term but it is ideal given the long-term post-mining water impacts, see also Transcript page 359.

<sup>55</sup> Section 27 (1) (f) and (g) NWA, see Transcript page 540, 798-799.

<sup>56</sup> Record page 1310, noting that decant volumes will depend on rate of pit infiltration, an aspect not fully canvassed and subject to future climatic variations which have not been considered at all.

<sup>57</sup> Record page 14, (SAS Report).

flow and transport model and therefore, the prediction of decant quantity and quality. The effectiveness of any mitigation measures developed without this data are open to doubt. This is in addition to the 53 years lifespan of the mine conflicting with the government's development policy and climate change mitigation trajectory and planning.<sup>58</sup>

39. It is clear from the submissions and evidence of the parties that there are scientific disagreements on the sufficiency of the information and data used by the appellant to assess geohydrological impacts and design mitigation measures. The experts disagreed on the use of the slug or pump test with the appellant and its experts insisting that a slug test is good enough while the respondents' internal experts demonstrated that a pump test is the standard if one wishes to obtain accurate data for a high confidence groundwater numerical model. The respondents' experts submitted that the slug test has limitations when the water quantities are small.<sup>59</sup> The appellant stated that within the opencast pit area it was not possible to do pump tests as boreholes kept collapsing and yielding insufficient water for proper pump testing.
40. It is important to note that the concerns raised by the respondents' experts, that informed their recommendations and the eventual decisions, arise from the findings of the appellant's specialist studies. It was Digby Wells that highlighted the need of further studies, regardless of which the appellant proceeded to submit the WULA and was compelled by the respondents to undertake those further recommended studies. We will come back to this failure to pursue expert recommendations further when we deal with the question of cumulative impacts.

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<sup>58</sup> Record page 2744, Chapter 5 of the National Development Plan Vision 2030 – Transition to a Low Carbon Economy.

<sup>59</sup> Transcript page 537- 538

## Geochemical impacts

41. The second major area of disagreement between the parties is the aspects of the geochemical data and information used to design mitigation measures and selection of material for rehabilitation of the open pit area. Geochemistry relates to the determination and analysis of the potential for chemical interactions among the materials disturbed by mining to lead to reactions that may create polluted water. In this case geochemical assessments were aimed at determining the potential for rock AMD from mine waste material namely, waste rock, coal, coal product and coal discard.
  
42. Such a study assists in identifying potential impacts on water quality during and post-mining as well as identifying suitable mitigation measures. It involved collection of rock and soil samples, determining their mineralogy, and testing them in a laboratory. In this case the samples were subjected to an acid-base test and a kinetic leach test. The acid-base test aims to determine the sulphide content and potential of a sample to generate acid when exposed to certain elements.<sup>60</sup> The column/ kinetic leach test seeks to determine what sort of minerals and substances would leach from a sample when it is exposed to certain conditions especially acidic conditions.<sup>61</sup> This is therefore related and intertwined with general impacts on water resources particularly groundwater during and post-mining.
  
43. In this appeal these geochemical considerations are at issue because the appellant intends to use overburden and interburden for backfilling areas where it would have extracted coal. Backfilling is part of concurrent rehabilitation of the mined parts as mining

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<sup>60</sup> Record page 1359.

<sup>61</sup> See further Record page 1337-1338.



progresses. The proposal to use the backfilling method and to use the overburden and interburden as backfill material triggered questions about the suitability of such material from a geochemical perspective.

44. The appellant's expert witness testified that the overburden material and interburden are unlikely to be acidic and hence using such material for backfilling poses less risk of AMD being generated. He also stated that the potential of AMD can be reduced if certain conditions are met during the backfilling process.<sup>62</sup> This testimony by the witness served to confirm and validate the methods, findings and recommendations by Geostratum Groundwater and Geochemistry Consulting (Pty) Ltd. None of the authors of the Geochemical Report were called to testify and confirm their methods, lab test results findings and recommendations. The witness did not collect any samples and, was not part of the team of geochemists who compiled the report before us and the respondents.<sup>63</sup> In a sense the witness was a reviewer of the geochemical report before us. In summary his evidence confirmed what is in the Geostratum Report.

45. Beyond the acid-base and the kinetic leach test, the lab results were used by Geostratum to develop a geochemical model used to estimate mine water quality over the life of the mine and post-mining. The Geostratum report cautions, in this regard, that,

The objective of the geochemical modelling was to estimate the mine water quality for the proposed Palmietkuilen Colliery. Analytical results cannot be used directly to establish the changes in the leachate quality from a mine over time. Due to the complexity of the interaction between the solid, water and gas phases, numerical modelling was used to predict the most important parameters of expected Acid Mine Drainage (AMD).<sup>64</sup>

In relevant parts, the Geochemical Report stated -

*Backfilled pit (no discard):* Backfilling of discard and covering it with at least water saturated waste rock will prevent oxidation of pyrite in the discard.

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<sup>62</sup> Transcript page 300.

<sup>63</sup> Transcript page 303-306.

<sup>64</sup> Record page 1401.

The carbonaceous waste rock has some sulphide mineral content, and when mixed with the clay and sandstone above the decant elevation, will generate a sulphate concentration of up to 2 000 – 2 300 mg/l which will later decrease to 2 000 mg/l.

*Backfilled pit (with discard):* The discard will be placed >20 m below the decant water level and no oxidation of pyrite will take place.

The discard needs to be backfilled with an inherent neutral (paste) pH.

*Discard Dump:* The discard has a high pyrite and sulphate mineral content and the discard dump will be in contact with the atmosphere.

The discard has a high pyrite and sulphate mineral content and seepage from the discard dump will have an average sulphate concentration of between 4 500 - 6 000 mg/l. However, it is possible that spikes in the sulphate may occur of up to 10 000 mg/l.<sup>65</sup>

46. Among, other recommendations, the reports recommend that:

Discard backfilled in the pit should be flooded as soon as possible and should be situated several meters below the final pit water level to ensure that limited oxidation takes place;

The discard must have a neutral (paste) pH when backfilled else it would immediately acidify interstitial water before being covered with water. In this case, it is recommended that calcitic lime is added to the discard. However, the amount of lime required will depend on the degree of oxidation before backfilling and should be determined during the operational phase;

Carbonaceous rocks (including interburden and discard) should be placed in the deepest part of the pit and the mined-out section of the pits must be backfilled, compacted and rehabilitated as soon as possible.<sup>66</sup>

47. Overall, the Geochemical Report inclines towards concluding that there will be no acidification of either the residue stockpiles, the discards, or the overburdens, yet attaches several conditions for acidification to be prevented. The geochemical expert testified so much as well.<sup>67</sup> Significantly the Digby Wells reports consistently state that there could

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<sup>65</sup> Record page 1417.

<sup>66</sup> Record page 1417-1418.

<sup>67</sup> Transcript page 318 *et seq.*

be AMD.<sup>68</sup> This was the bone of contention with the internal expert who testified for the respondents.

48. The respondents called an internal Geochemist, Mr Mutshaine, employed as a Groundwater Specialist by the respondents. He was directly involved with the appellant's WULA and provides internal assessment and recommendations regarding geochemical matters raised by the WULA. He testified that the technical findings of the Geostratum Report are generally acceptable. However, the mitigation measures proposed to address any acidification and resultant AMD have not been fully demonstrated to be potentially effective.<sup>69</sup>

49. In particular, the witness took issue with the timeframes recommended to backfill material "as soon as possible" which is indeterminate. Second, he highlighted that the precondition to use calcitic lime to neutralise the backfill material is impractical particularly once the mine is decommissioned and water levels change in unpredictable ways. Third, he noted that while the Geostratum report highlighted serious potential acidification from the coal discard and stockpiles there were no proposed measures to mitigate potential pollution from runoff and seepage. Fourth, he highlighted that "the discarded dump materials indicate high pyrite content leading to high load of sulphides concentration up to 10 000 mg/L but the Geochem report, reported material to be put in discard dump range between 4 500mg/l to 6000 mg/l of sulphate concentration with high pH for the runoff water between 2 and 4.5."<sup>70</sup> Fifth, he expressed concerns and put into doubt the wastewater

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<sup>68</sup> Record page 862.

<sup>69</sup> Transcript page 808, 838; see also page 276,

<sup>70</sup> Record page 2353

classification<sup>71</sup> and raised the improbability of the time, location and period of decant forecasted by the report given the geology of the mining area. Lastly, the appellant's civil engineer proposes a passive water treatment system for decant and post-closure.<sup>72</sup> The appellant made financial provision for 10 years' operating the Reducing and Alkalinity Producing System (RAPS)<sup>73</sup> yet the decant from backfilled material was modelled for 100 years. Furthermore and in contradiction, LWRC recommends no mitigation measures during operations and post-closure.<sup>74</sup> These inconsistencies put into question the appellant's arguments.

50. There are no practical mitigation measures provided for the period beyond 10 years to 100 years and the respective financial provisioning has also not been addressed – this is discussed in detail later. The passive water treatment was demonstrated to be insufficient in relation to the identified impacts not only by the respondents' internal experts but also by appellant's original specialists. Digby Wells clearly state that to predict post-closure AMD decant, the appellant should “Investigate the option/feasibility of piping *water to the large AMD treatment facility* being constructed next to the Blesbokspruit.”<sup>75</sup>

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<sup>71</sup> Ibid, GFK's AMD Management Plan conceding that “No specific waste classification was done on decant water, but it is assumed a Class C liner applies.”

<sup>72</sup> Record page 2333 and 2353. Noted differences between passive and active treatment system: “Passive treatment systems are usually used to treat AMD with low acidity (<800mg CaCO<sub>3</sub>/litre), low flow rates (<50 l/s) and therefore low acidity loads. Although not maintenance free, passive systems are proven to have less maintenance. Passive systems rely completely on natural processes and gravity flow. *Capital cost may be high, but operational costs over the long term are significantly lower than that for active systems.* An active treatment system can theoretically remove all harmful constituents from polluted water, whereas a passive plant has certain limitations. However, a totally neglected passive system would still work satisfactorily, whereas a totally neglected active system will fail completely. Nevertheless, both systems have been analysed and costed. Active treatment systems have the advantage that they can be sized to suit any acidity/alkalinity levels and loads. These systems can be installed as a fixed or a package plant. *Capital costs may be lower than those required for passive systems, but operational costs can become extremely high, mainly attributed to high power generating, supervision and guarding costs to keep the plant running.* As will be explained in this report, a passive treatment system consisting of a Reducing and Alkalinity Producing System (RAPS) Wetland together with a settling pond is recommended to treat post closure decant water.”

<sup>73</sup> Record page 2348 and 2353, see also Record page 2850-51 where financial provision is up to end of mining only.

<sup>74</sup> Record pages 1306-1312.

<sup>75</sup> Record page 195 (emphasis added.)

51. Apart from the concerns raised by the respondents and their internal experts, the appellant's specialists contradict each other regarding whether there is potential for AMD from the mining project. Digby Wells have constantly noted the real likelihood of AMD<sup>76</sup> and the need for further studies and development of mitigation measures.<sup>77</sup> Yet Geostratum and LWRC persistently state that there will be no AMD. The latter position leads the specialist to recommend the passive water treatment and respective designs for the PCDs.
52. What is apparent in totality from the reports before us and the witness' testimony is that regardless of any scientific interventions there is a high likelihood that the mining activities and the method of concurrent backfilling will lead to a degree of acidification. The discard material has been proven to have sulphate content, regardless of the percentage, the fact is that it has some sulphate that could lead to chemical reactions and acidification. The conditions proposed to neutralise the acidification are experimental<sup>78</sup> and witness could not provide practical examples where it has worked.<sup>79</sup> The discard material as backfilling therefore appears unsuitable unless appellant proposed other appropriate mitigation measures than those in the Geochemical Report. The possibility of AMD during and post-mining poses a serious threat to water resources.<sup>80</sup>

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<sup>76</sup> Record page 1472 (post-mining water decant is predicted to occur once the final void has been rehabilitated and groundwater levels are allowed to return to natural level. It is anticipated that this decant will be acid forming (acid mine draining, AMD).)

<sup>77</sup> Record page 1589.

<sup>78</sup> Transcript page 369, 375-377.

<sup>79</sup> These are that a) the discard must be placed at the deepest part of the pit, b) the pit should be flooded as soon as possible, and the discard must have a neutral paste (calcitic lime) when backfilled.

<sup>80</sup> Record page 134.

53. This is aggravated by the limited mitigation measures post-mining when the AMD will decant.<sup>81</sup> The measures are limited in terms of the timeframe, the predicated quantity/volume,<sup>82</sup> and quality of decant. This creates uncertainty for the specific project, but probabilities can be determined based on the widespread AMD problem in the water management area where the mine is located. As we note elsewhere uncertainty increases with lack of information about climate change impacts. All the expert reports and testimony confirm that surrounding water bodies are likely to be impacted post-closure, and this overall, is likely to affect other water users and resources.<sup>83</sup> The proposed mitigation measures do not go far enough to mitigate the predicted pollution sustainably and effectively.

**Wetlands impacts and GN704<sup>84</sup> procedure.**

54. A third area on which the parties joined issue relates to the impacts of the project on wetlands and the compliance procedure for Regulation GN704, published in the Government Gazette no. 20119 of 4 June 1999. Regulation GN 704 was promulgated to regulate the use of water for mining activities and specifically to create certain prohibitions including a prohibition on opencast mining within a certain distance from a watercourse unless an exemption is first obtained .

55. The national Minister responsible for Water Affairs may in writing authorise an exemption from requirements of the Regulations 4, 5, 6, 7, 8, 10 or 11 on his or her own

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<sup>81</sup> Ibid; see also Record page 1310.

<sup>82</sup> Transcript page 795-796.

<sup>83</sup> Section 27(1)(f) NWA, Record page 1310.

<sup>84</sup> Regulations on Use of Water for Mining and Related Activities aimed at the Protection of Water Resources GN704, in *Government Gazette* no. 20119 of 4 June 1999.

initiative or on application, subject to conditions as the Minister may determine.<sup>85</sup> The regulations deal with the use of water for mining and related activities and are aimed at the protection of water resources. We firstly detail the impacts on wetlands and related ecosystem documented by the appellant on the basis of which GN704 is triggered. We emphasize that with or without the need for a GN704 exemption the appellant should demonstrate that any impacts on wetlands, as a water course, are sufficiently addressed and mitigated as part of the WULA.

56. The appellant's proposed mining project has serious potential impacts on wetlands and sensitive ecosystems. In their report Digby Wells report that

Loss of wetland habitat (soils and vegetation) totalling 5.58 ha for infrastructure and 226.65 ha associated with the open pit area. This *impact will be irreversible and will result in complete loss of wetland ecosystems or part thereof*. Although these wetlands are not in pristine condition, they are providing significant ecological services at the local and catchment scale. This is of particular concern due to the link to the NFEPA rank 1 Ramsar listed wetland (Blesbokspruit). There are no mitigation measures for loss of habitat; however off-sets must be investigated in such a case.<sup>86</sup>

The SAS report also recommends consideration of offsets should no mitigation measures be practicable for the loss of wetland and habitats.<sup>87</sup>

57. During the construction, operation, decommissioning, and post-closure phases, the specialist wetland studies show very high magnitude hydro pedological impacts. In fact, some wetlands and pans will be lost permanently.<sup>88</sup> There are no possible mitigation

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<sup>85</sup> Regulation 3 of GN704 of 1999.

<sup>86</sup> Record page 183,188 (*emphasis added*).

<sup>87</sup> Record page 35-36. (Should the above-mentioned mitigation measures be considered insufficient by the relevant authorities, the resultant impacts on the affected wetland(s) should be accordingly offset at suitable freshwater resources.")

<sup>88</sup> Record page 43.

measures except by way of offsets. The SAS Wetland Report purports to recommend reinstatement of wetlands and pans,<sup>89</sup>

Based on the results of hydro pedological assessment, the proposed open cast mine will impact on the wetlands, which feed into the Dwars-in-die-wegvlei wetland traversing the southwestern portion of the project area. The Dwars-in-die-wegvlei wetland is a tributary of the Blesbokspruit River, located approximately 1.3 km west of the project area...However, even though there will be a loss of wetlands for the duration of the operational phase of the mine, *the wetlands can be reinstated to a better condition post mining, as part of closure and rehabilitation if the design and implementation of the rehabilitation is cogently and responsibly undertaken.*<sup>90</sup>

58. The reinstatement mitigation by SAS hydro pedological report is contradicted and questioned by the Wetland Report by Digby Wells as possible mitigation measure for impacts on wetlands.<sup>91</sup> The Digby Wells Wetland Report states that, “There is no feasible mitigation possible for the loss of wetland habitat and thus these wetlands will need to be offset if the project is to go ahead, however this can only be implemented after the mitigation hierarchy has been followed.”<sup>92</sup>

59. It concludes further that;

However, it is the opinion of the wetland ecologist that the proposed open pit mining activities and proposed infrastructures, will lead to both the direct and indirect loss of habitat which will not have the potential to be rehabilitated. Should any plans for reinstating these pans exist, this will require a separate study and scope of work where investigation into the viability of the re-construction of these pans (post-mining) will be required. The reconstruction of wetlands will not be referred to as rehabilitation but can be motivated to Department of Water and Sanitation *as being part of an offset.*<sup>93</sup>

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<sup>89</sup> Record page 35, 37 and 39.

<sup>90</sup> Record page 41 (SAS Report)

<sup>91</sup> Record page 2298, 201, and 188 “There are no foreseen mitigation actions that may significantly lessen the impact on the receiving catchment.”

<sup>92</sup> Record page 207.

<sup>93</sup> Record page 207.



There are documented severe impacts on wetlands and pans which neither the environmental authorisation, nor the WULA specialist studies address in terms of mitigation measures. The off-sets option is completely disregarded.

60. The evidence of respondents' witnesses demonstrated that the mitigation measures proposed by the appellant are inadequate and in some instances not sufficiently substantiated. The record before us as augmented by the witness testimony shows that the appellant has not provided sufficient information on the mitigation for impacts on wetlands in the opencast pit area and surrounding environment. Despite both the SAS and Digby Wells recommending that appellant should explore and carry further studies to look at offsetting the permanent loss of wetlands and pans, the appellant failed to consider offsets at all.

61. With regards to the applicability of GN704 and the process for obtaining exemptions the record and evidence before us is also very clear. Several of the activities proposed by the appellant would contravene the prohibitions in, among other provisions, Regulations 4 and 5 of GN704. Such activities can only be commenced with once an exemption is granted. Regulation 3 of GN704 provides for the procedure for applying for such an exemption. While the appellant argued that "No procedure has been set down for this [exemption] application," the respondent published a Guideline as long ago as 2000 detailing the Regulation 3 exemption application procedure. But even without reference to the M6.1 Operational Guideline, the provisions of Regulation 3 are sufficient as a procedure for one to apply for an exemption. Where no forms are prescribed it implies that the applicant must write an application letter motivating why an exemption should be granted. Such an application would detail the activities which infringe GN704, and why

they are unavoidable, indicating what alternatives are open to the appellant and why the chosen option is the best practicable option, hence necessitating an exemption.

62. However, the M6.1 Guideline states that a formal application must be directed to the Regional Office containing at least the following information:

- i. Motivation and reason for exemption;
- ii. Alternative proposal to the specific requirements of GN704;
- iii. Impact assessment of alternative proposal;
- iv. Management plan associated with alternative proposal; and
- v. Proposed performance assessment and monitoring techniques.<sup>94</sup>

It is now standard practice for such an application to be lodged separately or as part of a WULA.<sup>95</sup> Where an exemption application is part of a WULA, the motivation and sufficient details should still be provided often an annexure.<sup>96</sup>

63. In the case before us the appellant has argued that it need not formally apply for an exemption, and if that is necessary, that it applied as part of the WULA. While the appellant argued that the reference to GN704 in their Integrated Water and Waste Management Plan (IWWMP),<sup>97</sup> constitutes an application, the attempted application is insufficient. In paragraph 5.4 titled “Relevant Exemptions” the appellant mention GN704

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<sup>94</sup> Guideline Document for the Implementation of Regulations on Use of Water for Mining and Related Activities Aimed at the Protection of Water Resources, Operational Guideline No. M6.1 Second Edition, (Department of Water Affairs and Forestry, May 2000.)

<sup>95</sup> There are many examples of GN704 exemption applications in the public domain, see for example: ‘Application in terms of Regulation 3 for Exemption in terms Of GN 704 Of June 1999: Thabametsi Power Company (Pty) Ltd <<https://cer.org.za/wp-content/uploads/2018/04/Thabametsi-GN-704-Motivation-14.12.17.pdf>>; Motivation for an Application for Exemption in terms of Regulation 3 Of Gn.704 (4 June 1999): Water Use Licence Application for a Water Use in terms Of Section 21(G) of the National Water Act, 1998 (Act No. 36 Of 1998) for the Backfilling of the Historically Mined Pit on Portion 15 of the Farm Jagersfontein 14 Is, Fauriesmith District, Free State <https://sahris.sahra.org.za/sites/default/files/additionaldocs/GN704%20exemption%20motivation.pdf>; GCS Water and Environmental Consultants- Aviemore North Adit and Access Road- Zinoju Coal (Pty) Ltd <<https://gcs-sa.biz/wp-content/uploads/2018/08/Appendix-28-Exemption-from-GN704.pdf>>

<sup>96</sup> Ibid.

<sup>97</sup> Record page 732, Transcript page 838.

and state that “The following exemption is to be applied for in terms of Regulation 704 of the NWA...” Thereafter, Regulation 4(a), (b) and (c) are reproduced. Beyond this, there is nothing else by way of motivation for an exemption application. GN704 is also mentioned in passing by LWRC in the Hydrogeological Impact Assessment.<sup>98</sup> Hence the testimony by the respondents witnesses that the WULA did not comply with GN704 holds water. He testified that beyond mentioning that they intend to apply for GN704 exemptions, appellant was bound to fully motivate for such exemption within the WULA.

64. In water law any exemption is not lightly granted and a person applying for one should motivate and explain the exceptional circumstances warranting the granting of an exemption from complying with a law or regulation. What was before the respondents and what has been placed before us cannot be deemed to be an integrated application for a GN704 exemption. There is no substantiated motivation for us to consider a GN704 exemption application as part of the WULA.<sup>99</sup> However, we do not agree that the fact that a GN704 exemption had not been applied for, or granted, at the WULA stage meant that the respondent was obliged to refuse to grant the WULA.

### **Social and economic impacts**

65. When the respondent declined the WULA and noted that the public is not in support of the application, it turned out in evidence that, this was a reference to the socio-economic impact of the project.<sup>100</sup> The appellant led evidence from one witness who purported to

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<sup>98</sup> Record page 1317 in connection with separation of dirty run-off into the PCDs. It is then mentioned again in passing at Record page 773 without reference to the question of application for exemption.

<sup>99</sup> Transcript page 831-832.

<sup>100</sup> Detailed at page 3855-3857 of the Record.

represent the local community but was a former councillor and therefore a politician. His evidence sought to demonstrate that the public or rather local community was in support of the appellant being granted a WUL given the economic benefit expected to accrue to the community. His evidence did little to demonstrate how the proposed water uses are beneficial and in the public interest, in addition to the specialist studies on socio-economic benefits of the project.<sup>101</sup> He expressed concern at the few jobs to be created.<sup>102</sup> The appellant's Chief Operating Officer provided some evidence of how the project will benefit the locality and the national economically.<sup>103</sup>

66. The social and economic impact assessment reports document that the locality of the proposed coal mine is currently a thriving agricultural area.<sup>104</sup> Farming has been conducted in the area for decades and is likely to continue, should it not be disrupted by the proposed mining activities.<sup>105</sup> While the evidence from the witness demonstrated that mining jobs pay better than agricultural jobs,<sup>106</sup> the evidence also showed that agricultural activities endure beyond a finite time unlike mining which is limited to the resource availability.<sup>107</sup> This was also attested to by the community member witness who mentioned that the agricultural activities have been ongoing since he was born<sup>108</sup>.

67. At the local municipal level, mining contributed only 0.6 per cent to the GDP of the local municipality. It created only 377 jobs based on a 2016 study.<sup>109</sup> After 53 years of mining

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<sup>101</sup> Section 27 (1)(c) and (d) NWA.

<sup>102</sup> Transcript page 488-489.

<sup>103</sup> Transcript page 61-62.

<sup>104</sup> Record page 2611-2615,2644 and 3687.

<sup>105</sup> Record page 2643 detailing impacts of sterilizing agricultural land due to the mining.

<sup>106</sup> See also Record page 2640-2641.

<sup>107</sup> Record page 3855.

<sup>108</sup> Record page 485- 486.

<sup>109</sup> Record page 2620, see also Record page 2637-2638.

in this area none knows what economic activities will sustain the community. In that sense the existing economic activities can be deemed more sustainable than the proposed mining project. The social and economic benefits<sup>110</sup> proposed by the appellant pale in comparison to the longevity and self-sustaining nature of agricultural activities. Loss of agricultural land will be permanent as the mitigation and rehabilitation measures proposed by appellant will not restore land to current land uses.<sup>111</sup> The appellant provided no information on how these impacts on agriculture will be mitigated.

68. We note the specialist studies also highlight the issues of food security and how the area contributes to the national agricultural output.<sup>112</sup> Weighing the information before us, specialist studies, objectors concerns, and witness testimony – the socio-economic impacts of not granting the WUL is negligible relative to the socio-economic impacts of granting the WUL and uprooting the thriving agricultural economy in the area.<sup>113</sup> Socio-economic aspects considered together with the long-term environmental (water) impacts, indicate that efficient and beneficial use of water in the public interest<sup>114</sup> would be promoted by declining the WUL.

**Integrated approach: Question of cumulative impacts.**

69. The reports, documents and evidence led during the hearing shows that the appellant appears pre-occupied with the social and economic benefits of proceeding with the coal

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<sup>110</sup> Record page 1451, 2635 *et seq.*, and 2956

<sup>111</sup> Record page 2056, 2065, 2081 (Maize Trust’s objection noting that “Based on previous published studies, we could argue that high potential soils which are mined will never be rehabilitated back to the state/potential which it previously had.”)

<sup>112</sup> Record page 839-842.

<sup>113</sup> Section 27(1)(c) and (d) NWA.

<sup>114</sup> Section 27(1)(c) NWA.

mining project. Indeed, its specialists conducted extensive studies, assessing impacts and recommending mitigation measures yet the reports do not sufficiently integrate environmental and sustainability concerns. A particular area of concern which the appellant seem to ignore is the potential of regression and aggravation of an area already burdened with extensive water pollution from existing mining activities.<sup>115</sup>

70. The appellant's specialist raised the concern about cumulative impacts and made recommendations which the appellant failed or neglected to follow through. The IWWMP states that

The Witwatersrand area, where this Project is located, is most certainly an area that has undergone significant cumulative impacts to wetlands and the associated catchment. Due to the major impacts that will be caused by the proposed activities, this project will directly and significantly contribute to the cumulative negative impacts on wetland ecosystems in the local, municipal and regional area.<sup>116</sup>

71. It continues and recommends that;

The eastern basin of the Witwatersrand is recognised for current AMD related issues. Based on the broader cumulative impacts, *further engagement with surrounding mining houses will be undertaken to explore the potential for a regional management strategy for AMD.*<sup>117</sup>

The report identifies several existing and other planned mining projects<sup>118</sup> that collectively can lead to impacts that are avoidable by considering the no go option.

72. An interested party, a member of the public raised concern that "The Blesbokspruit forms part of the drinking water for Gauteng and any negative impact to this system will result in negative consequences to human health."<sup>119</sup> In response as part of considering

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<sup>115</sup> Record page 2057.

<sup>116</sup> Record page 197 and 949.

<sup>117</sup> Record page 1526 (*emphasis added*).

<sup>118</sup> Record page 3844.

<sup>119</sup> Record page 1786, 2738.

comments by the public the appellant's representative responded that "The water quality indicated that *the Blesbokspruit water quality is already contaminated* and according to the registered water user database received from Department of Water and Sanitation, water extraction from Blesbokspruit is only for irrigation and Industrial use."<sup>120</sup> This is one of many exchanges between appellant's specialists and interested and affected parties that confirms some of the environmental realities of the mining area.<sup>121</sup> Several of the concerns and objections raised by interested and affected parties relevant to water resources were not fully addressed in the mitigation measures proposed by the appellant.

73. The above is confirmation that the water resources in this water management area are already degraded, and further uses that are likely to cause further pollution will cause the water quality in the area to regress. Such an approach is inconsistent with the principles in section 2 of the NEMA.<sup>122</sup> The integrity of the water resources and the ecosystem in the eastern basin of the Witwatersrand area is already jeopardised.
74. The appellant has not demonstrated how authorising the water uses applied for would not aggravate the cumulative impacts on water resources in this area identified by their own experts and affected parties. No information was provided to confirm if they engaged any further with other mining houses to align their proposed uses to any regional water pollution control strategy. The mitigation measures proposed for identified impacts remain focused on the specific project and make no reference to cumulative implications and commensurate measures.<sup>123</sup>

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<sup>120</sup> Ibid (*emphasis*).

<sup>121</sup> Record page 1786-1802, see also Record page 2735-2736.

<sup>122</sup> Section 2(4) of the NEMA provides among others that (4) (a) Sustainable development requires the consideration of all relevant factors including several principles of environmental management.

<sup>123</sup> Record page 2057.

**Mitigation measures, the post-mining situation, financial provisioning, and uncertainty.**

75. An overall assessment of the specialist studies placed before us in the context of oral evidence led and submission by the parties leads us to conclude that there was sufficient identification of most of the potential impacts of the proposed mining activity. However, efforts to develop and design mitigation measures for those impacts relating to water resources fall short of what is expected considering the prescripts of the law.
76. In most cases the appellant's specialists recommended mitigation measures subject to certain conditions which the appellant ignore or neglected to pursue.<sup>124</sup> In some instances later reports especially by LWRC simply brush aside empirical findings and recommendations in early studies. Pertaining to the key geohydrological issues after the initial sitting LWRC commissioned further studies (December 2022) whose findings are not significantly different from those in the Digby Wells 2017 reports and the LWRC 2020 reports.<sup>125</sup> For all intents and purposes, the findings by the respondents cannot change when no new significant findings came from the further studies or testimony of witnesses.
77. Indeed, as the appellant contends the WULA may have met the civil design and engineering requirements but failure to meet the geohydrological and water pollution protection threshold could be fatal to the application. Consistent with *Makhanya*, no one factor is decisive in the relevant factors to any WULA. However, one or more factors indicating irreversible impacts on the environment and water resources for which no

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<sup>124</sup> See Record pages 183 (no effort to address the Ramsar site issue), 188 (off-sets not pursued), 189, and 195.

<sup>125</sup> Transcript page 169-170.



meaningful mitigation measures have been proposed could inform a decision against granting the WUL.

78. In the case before us there was cursory consideration of the post-closure water resource pollution and the measures necessary to continuously mitigate such pollution.<sup>126</sup> At one point the appellant proposed that existing government water treatment facilities funded by the public should be considered for treating any long-term post-closure water contamination. Once mining is concluded after 53 years, polluted underground water will decant to the surface 35 years later and will continue to daylight going towards 100 years.<sup>127</sup> Mr Shibambo testified that given the groundwater flow estimation,<sup>128</sup> the predicted decant points,<sup>129</sup> and future water ingress, contaminated water will likely end in the southern-western side of the basin towards Aston Lake.<sup>130</sup>

79. The mitigation measures proposed by the appellant are silent on what specific measures could address the uncertain water pollution 35 years beyond closure. By the time of closure some irreversible losses would have occurred in the open pit area.<sup>131</sup> The uncertainty regarding the ideal water treatment method, the quality of decant water, and quantities of decant as well as the long-term costs call upon us to apply the precautionary principle and err on the side of caution.<sup>132</sup> The passive water treatment chosen by the

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<sup>126</sup> Record page 1310-1311.

<sup>127</sup> Record page 1310.

<sup>128</sup> Diagrams on page 322, 343, and 3913 (Figure 3.5.d) (Groundwater flow direction model.)

<sup>129</sup> Location inside pit area near borehole BH3. Appellant's experts argued decant would occur closer to borehole BH6.

<sup>130</sup> Transcript page 799.

<sup>131</sup> Record page 188.

<sup>132</sup> Appellant's Replying Submission para 87-88, citing *Sustaining the Wild Coast NPC and others v Minister of Mineral Resources and Energy and others* 2022 (6) SA 589 (ECG) para 109 and *WWF South Africa v Minister of Agriculture, Forestry and Fisheries and others (South African Small-Scale Fisheries Collective as amicus curiae)* (2019 (2) SA 403) (WCC). Appellant's arguments that there are no irreversible losses to trigger the precautionary principle are not borne out by the record.

appellant and constant addition of calcitic lime are not sufficient to deal with any future water contamination.

80. Similarly, both in the evidence and reports before us the appellant could not confirm the adequacy of financial provision made for *post-closure* water treatment and pollution prevention.<sup>133</sup> The current financial provision provided in the context of life of the mine is insufficient to address the more critical impacts likely to result from the decant of polluted water 35 years post-mining.
81. During the hearing we asked the appellant if any of its specialists considered how the impacts of climatic changes could affect its mitigation measures.<sup>134</sup> The response demonstrated that climate change impacts were not adequately considered both during environmental authorisation process<sup>135</sup> or the WULA process. All the reports before us made scant reference to how climate change may impact the proposed mining project in terms of the global coal market going towards the sunset, the possibility of stranded assets, and consequent economic fallout. While noting the impacts of climatic variations on agriculture, the EIA report ignored similar impacts on the socio-economic viability of the coal mining project and misalignment of the 53 years of mining to the country's climate change adaptation and mitigation policy.<sup>136</sup> This is clear from the policy alignment and review conducted by the which EAP does not mention any climate change related policies.<sup>137</sup> The Tribunal relies on the robustness of the environmental authorisation studies to address climate change impacts, but in this case that was not done.

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<sup>133</sup> Transcript page 65-66.

<sup>134</sup> Transcript page

<sup>135</sup> Record page 3845 (cursorily mentions climate change as a potential cumulative impact.)

<sup>136</sup> Record page 3238.

<sup>137</sup> Record page 2598.

## Summary of findings

82. Generally, the appellant and its experts identified the potential impacts of the proposed coal mining project and predicted the impacts at the project level. Beyond the project-specific findings, the appellant did not sufficiently consider impacts of the proposed mining activity on the Aston Lake catchment level, considering the existing mining activities and the already degraded water resources in the Vaal Water Management Area.
83. The appellant failed to follow some of the recommendations by its own specialists to strengthen mitigation measures and ensure that it sufficiently addresses the impacts identified.
84. The reasons provided by the respondents demonstrate that, contrary to the appellant's arguments, the respondents applied their mind to the WULA and specialist studies submitted in support thereof. There would not have been further studies conducted if the respondents had not thoroughly considered the expert reports and various correspondence from the appellant. In their testimony the two internal experts, who are officers of the respondent, demonstrated that they would look at the WULA differently if the appellant had heeded its own experts and their recommendations regarding assumptions and limitations of the geohydrological and geochemical sampling and modelling.
85. The respondents' internal experts, and indeed as is the Tribunal, are not required to provide countervailing scientific evidence or expert reports as such – their mandate is to assess, evaluate, and analyse the documents submitted in support of a WULA, and to make recommendations to the decision-maker who makes the final decision. As the organ tasked with re-taking the decision on the WULA, we are not convinced that the record,

and the new written and oral information submitted by both parties sufficiently addresses the inadequacy of data from within the opencast pit area and future impacts on water. In particular:

85.1. The existing data gaps compromise the confidence level of the groundwater flow and transport model. The location of the decant point is questionable given the geology of the mine area and groundwater flow modelling once mining commences. We find that the lack of more accurate data from the open pit area compromised the confidence levels of the groundwater and geochemical modelling putting into question the potential effectiveness of the proposed pollution control and mitigation measures.

85.2. While there are no technical problems with the engineering designs as such, the capacity, volume, and quality of decant 35 years post-closure has not been adequately studied to inform the proposed mitigation measures.

85.3. The appellant's insistence on the option of a passive water treatment plant, as opposed to active treatment which the government is currently implementing to deal with AMD in the same region is not supported by the studies before us. Read together, the testimony of both appellant and respondents witness shows that the anticipated impacts on water resources, especially post-closure, are uncertain but potentially high risk.

85.4. Given the cumulative impacts and degraded state of water resources in the area, the evidence and studies indicate that much more than a passive water treatment and monitoring measures is necessary to mitigate against future water

contamination. Already the Blesbokspruit is receiving daily about 100 million litres of neutralised AMD with high levels of sulphur from historical mining activities.<sup>138</sup> The Aston Lake catchment is therefore an area where, to avoid regression and further damage, we should err on the side of caution and protect the sensitive environment and the surrounding ecosystem, parts of which are of international significance.<sup>139</sup> Despite expert recommendations the appellant persisted with a project-focused narrow assessment of impacts.

85.5. The appellant insisted on not complying with GN704 whether by substantially motivating the integrated application in the WULA or making a formal application, yet the project poses serious, and in some cases irreversible and irreparable, harm to the wetlands and surrounding ecosystem.<sup>140</sup> It is standard and common practice for any exemptions from compliance with pollution control legislation to be fully motivated. An applicant for any exemption should demonstrate exceptional circumstances why compliance is impracticable and how the exemption advances sustainable management of water resources. As part of the WUL we would have to include GN704 exemption conditions. The information before us did not disclose any sustained motivation for the GN704 exemption, and an exemption cannot be granted merely for the asking.

85.6. Despite recommendations by experts, the appellant failed to consider the option of wetland and biodiversity off-sets to mitigate against permanent loss of wetlands and pans in the mine area.

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<sup>138</sup> Record page 2039.

<sup>139</sup> Transcript page 799, Record page 2043.

<sup>140</sup> Record page 2913, read with page 2920-2921. Letter from respondent dated 10 March 2022, advising the appellant to expand its GN704 mainstreamed application.

85.7. We therefore agree with the respondents that the appellant did not provide, and still has not provided us with sufficient information to substantiate the adequacy of mitigation measures for impacts on water resources, especially regarding post-closure impacts and water treatment once decanting starts.<sup>141</sup> Digby Wells emphasized that post mitigation or management “[g]roundwater contamination due to mine disturbance will continue even after mine closure.”<sup>142</sup>

85.8. The appellant did not demonstrate the strategic importance of the proposed water use. The mining of coal mainly destined for the export market has little to do with national energy security and energy sustainability.<sup>143</sup> The information from the former councillor did not show how the socio-economic benefits of granting the licence outweigh the effects of not granting the licence. Collectively, the record and studies show that socially and economically, the local municipalities and the country are better off without having to manage the environmental impacts and water contamination from the project.

86. On the procedural complaint that appellant was not given an opportunity to make representations<sup>144</sup> the record speaks clearly to the numerous occasions on which the appellant was allowed to engage with the respondents starting with the pre-application consultation, site visits, and constant communication.<sup>145</sup> Indeed section 41(2) (d) of the NWA requires that the responsible authority “afford the applicant an opportunity to make

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<sup>141</sup> Record page 2715- 2720.

<sup>142</sup> Record page 3311.

<sup>143</sup> Record page 2622. References to local energy security contradicts emphasis on the export market mentioned in the reports, Record page 3029.

<sup>144</sup> Pleadings Record page 28.

<sup>145</sup> Record page 2909, 2912. Consultations begun with a meeting on 11 April 2017, a site visit on 18 May 2017 and several inspections, meetings, email exchanges virtual meetings and presentations documented in the Record page 2721-2723, see also Transcript page 73- 77, 81.

representations on any aspect of the licence application.” However, an insistency on being given the opportunity to engage with each internal functionary<sup>146</sup> of the respondent is beyond this legal requirement for participatory environmental decision-making.

87. The purpose of an opportunity to make representations is to enable the decision-maker to have complete information necessary to make a rational decision. It is not an opportunity for an applicant to unduly influence the decision-maker or constrain the exercise of their regulatory and expert discretion.
88. As an organ of state filling the shoes of the respondents, we have a trustee duties to ensure that the decision we make balances the appellant’s socio-economic interest, environmental sustainability concerns, and social equity.<sup>147</sup> Our obligation is to ensure that the people living in the project area 53 years from now, and in all likelihood battling the effects of climate change, will not be burdened with historical water pollution and a barren landscape for which no one will be liable to remediate. We are entreated to bear in mind the strategic importance of any water use authorised, while placing the needs of people at the forefront.<sup>148</sup> Indeed, employment creation and economic production, supported by reliable energy are critical to confront widespread poverty. Yet these cannot be pursued through unmitigated extraction of mineral resources.
89. The concept of sustainable use binds us to be satisfied that the extractive activity is within the bounds of what can cost-effectively be mitigated during and post-extraction – that

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<sup>146</sup> All internal deliberations and comments were subsequently consolidated by the case officer and relayed to the appellant, see Record page 2912-2913.

<sup>147</sup> Section 2(3) and 2(4)(i) NEMA, section 27(1)(d) and (h) NWA.

<sup>148</sup> Section 27(1) NWA, section 2(2) NEMA.

sustainability balance should be approximated.<sup>149</sup> The uncertainties regarding post-closure water contamination and treatment call for caution.<sup>150</sup> Permanent loss of sensitive wetlands and pans providing vital ecosystem services – although not pristine – require specific attention.<sup>151</sup> In the present case, we are not satisfied that suitable mitigation, rehabilitation, and remedial measures have been proposed. There is no adequate provision of resources to address post-closure water contamination and treatment. Proposed mitigations are short-to-medium term, and largely focused on facilitating the project to its end of life.

### **The Order**

90. The appeal is dismissed.


**HANDED DOWN AT PRETORIA ON THIS 26<sup>th</sup> DAY OF APRIL 2023.**



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**Tumai Murombo**

Additional Member of the Tribunal & Panel Chairperson.



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**Unathi Mbeki**

Additional Member of the Tribunal.

I agree and it is so ordered.



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**Sarah Kvalsvig**

Additional Member of the Tribunal.

I agree and it is so ordered.

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<sup>149</sup> Section 24 (b) (iii) of the Constitution, *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and others* 2007 (6) SA 4 (CC), paras 45, 61-62, 117.

<sup>150</sup> Section 2 (4)(a) (vii) NEMA, Record page 1310-1312.

<sup>151</sup> Section 2(4)(r) NEMA, Record page 2298,